

BREA MALL MIXED USE PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME I

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BREA MALL MIXED USE PROJECT

for the City of Brea

Volume I

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ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program

Abbreviations and Acronyms

CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable

Abbreviations and Acronyms

mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPP	plans, policies, and programs
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
South Coast AQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan

Abbreviations and Acronyms

SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Executive Summary

1.1 INTRODUCTION

This Draft Environmental Impact Report (DEIR) addresses the environmental effects associated with the implementation of the proposed Brea Mall Mixed Use Project. The California Environmental Quality Act (CEQA) requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. An environmental impact report analyzes potential environmental consequences in order to inform the public and support informed decisions by local and state governmental agency decision makers. This document focuses on impacts determined to be potentially significant in the NOP completed for this project (see Appendix A).

This DEIR has been prepared pursuant to the requirements of CEQA. The City of Brea, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports.

Data for this DEIR derive from onsite field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data and similar literature; and specialized environmental assessments (air quality, cultural resources, greenhouse gas emissions, hazards and hazardous materials, land use, noise, population and housing, transportation, and tribal cultural resources).

1.2 ENVIRONMENTAL PROCEDURES

This DEIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

1. Executive Summary

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts.

An EIR is 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. Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was 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 adopt a statement of overriding considerations if significant impacts cannot be avoided.

1.2.1 EIR Format

Chapter 1. Executive Summary: Summarizes the background and description of the proposed project, the format of this EIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this EIR, background on the project, the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: A detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the notice of preparation was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the proposed project; the level of significance after mitigation is incorporated; and the potential cumulative impacts of the proposed project and other existing, approved, and proposed development in the area.

Chapter 6. Significant Unavoidable Adverse Impacts: Describes the significant unavoidable adverse impacts of the proposed project.

Chapter 7. Alternatives to the Proposed Project: Describes the alternatives and compares their impacts to the impacts of the proposed project. Alternatives include the No Project Alternative, Reduced Retail Intensity Alternative, No residential Alternative, and the Reduced Density Residential Alternative.

Chapter 8. Impacts Found Not to Be Significant: Briefly describes the potential impacts of the project that were determined not to be significant by the Initial Study and were therefore not discussed in detail in this EIR.

Chapter 9. Significant Irreversible Changes Due to the Proposed Project: Describes the significant irreversible environmental changes associated with the project.

Chapter 10. Growth-Inducing Impacts of the Project: Describes the ways in which the proposed project would cause increases in employment or population that could result in new physical or environmental impacts.

Chapter 11. Organizations and Persons Consulted: Lists the people and organizations that were contacted during the preparation of this EIR.

Chapter 12. Qualifications of Persons Preparing EIR: Lists the people who prepared this EIR for the proposed project.

Chapter 13. Bibliography: The technical reports and other sources used to prepare this EIR.

Appendices: The appendices for this document (in PDF format on a CD attached to the front cover) comprise these supporting documents:

- Appendix A: NOP and NOP Comments
- Appendix B: Air Quality and GHG Modeling
- Appendix C: Cultural Resources Records Search
- Appendix D: Energy Modeling
- Appendix E: Phase I Environmental Site Assessment
- Appendix F: Phase II Environmental Site Assessment
- Appendix G: Noise Monitoring and Modeling
- Appendix H: Service Provider Response
- Appendix I: Traffic Report
- Appendix J: Tribal Consultation Correspondence
- Appendix K: Wastewater Flow Monitoring
- Appendix L: Hydrology Report
- Appendix M: Preliminary WQMP
- Appendix N: Soils Report
- Appendix O: Mitigation Monitoring Program

1.2.2 Type and Purpose of This DEIR

This DEIR has been prepared as a "Project EIR," defined by Section 15161 of the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3). This type of EIR examines the environmental impacts of a specific development project and should focus primarily on the changes in the

environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation.

1.3 PROJECT LOCATION

The proposed project involves up to 17.5 acres of the Brea Mall property ("project area"), as shown in Figure ES-2. The Brea Mall—1065 Brea Mall, City of Brea—encompasses approximately 74 acres in northeast Orange County. The City of Brea is bordered by the cities of La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills (San Bernardino County) to the northeast; and unincorporated Los Angeles County to the northwest (see Figure ES-1, *Regional Location*).

The Brea Mall is west of State Route 57 (SR-57) and is generally bounded by State College Boulevard to the east, Imperial Highway (SR-90) to the south, South Randolph Avenue to the west, the City of Brea City Hall and Embassy Suites by Hilton to the northwest, and East Birch Street to the north. Figure ES-1 and Figure ES-2, *Local Vicinity*, show the location of the site within the regional and local contexts of Orange County and the City of Brea, respectively.

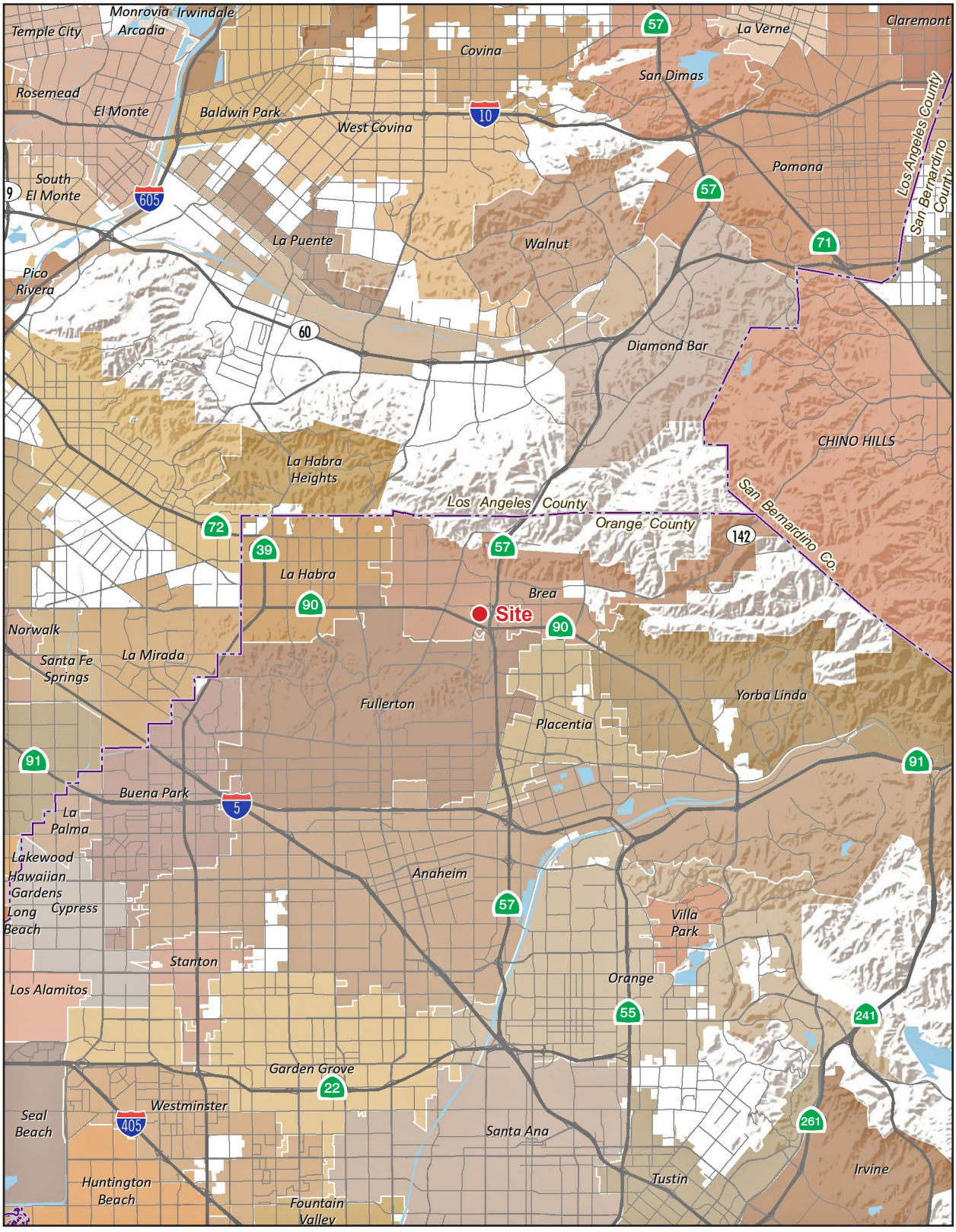
1.4 EXISTING LAND USE

An aerial photograph of the Brea Mall is shown on Figure ES-3, *Aerial Photograph*. The mall has 1,291,433 square feet of commercial square footage and a floor area ratio (FAR) of 0.43. The mall consists of a central retail core with five major department stores as "anchors"—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, & Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures along the Brea Mall Circle (referred to as the "outlot" or "out parcels"), including the Olive Garden, Red Lobster, and the Cheesecake Factory.[1] The mall can be accessed from three of the surrounding streets—State College Boulevard, South Randolph Avenue, and Birch Street. Mall parking is provided on surface spaces and in three parking structures. On January 4, 2018, Sears announced that, as part of a plan to close 103 stores nationwide, it would close its store at the Brea Mall, which was an anchor on the southwest side. Sears closed in April 2018, and the first floor of that building (83,500 square feet) is now leased by another retail store.

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

Figure ES-1 - Regional Location

1. Executive Summary



Note: Unincorporated county areas are shown in white.

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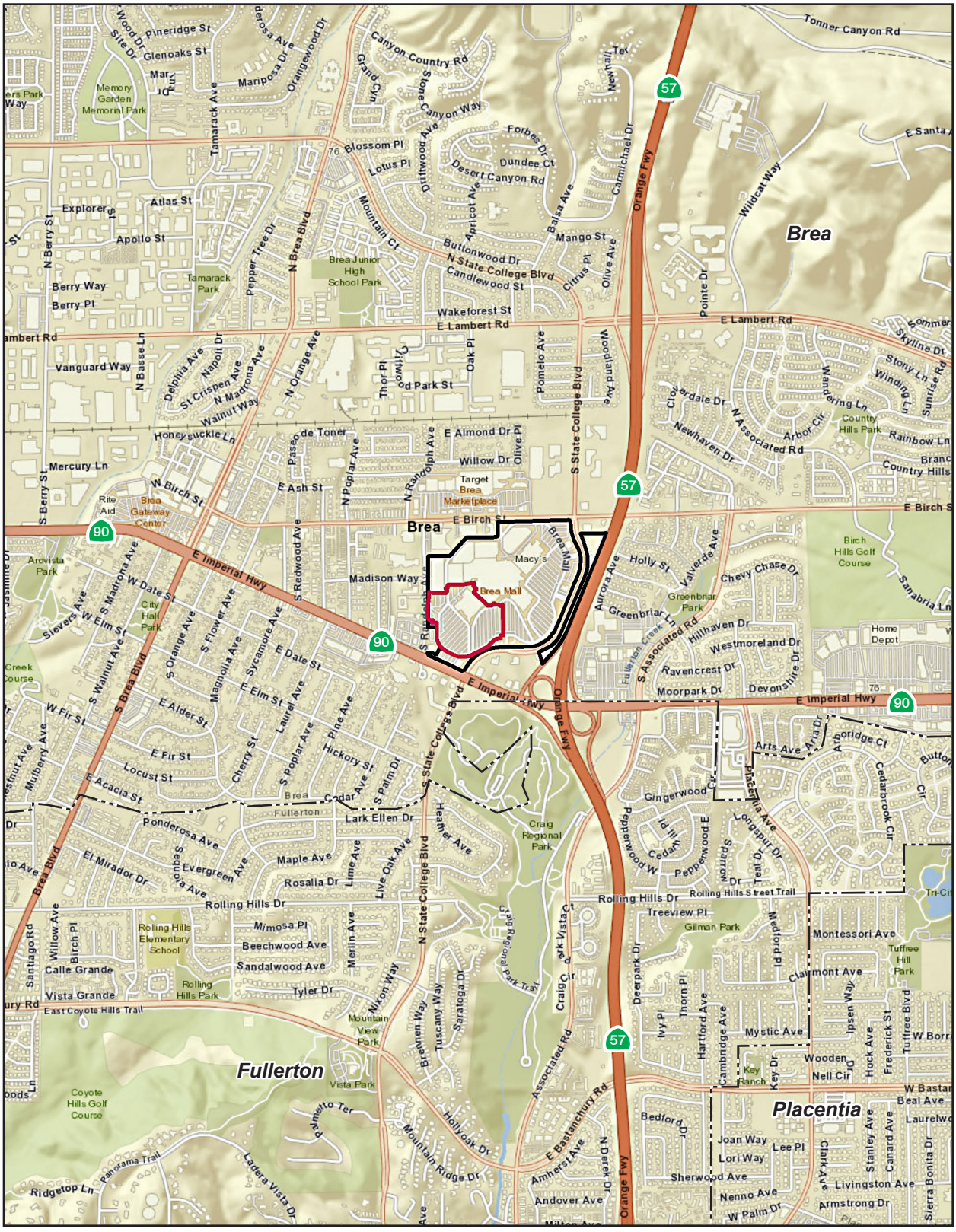
Source: ESRI, 2020

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Figure ES-2 - Local Vicinity

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Brea Mall Boundary
Project Area Boundary
City Boundary

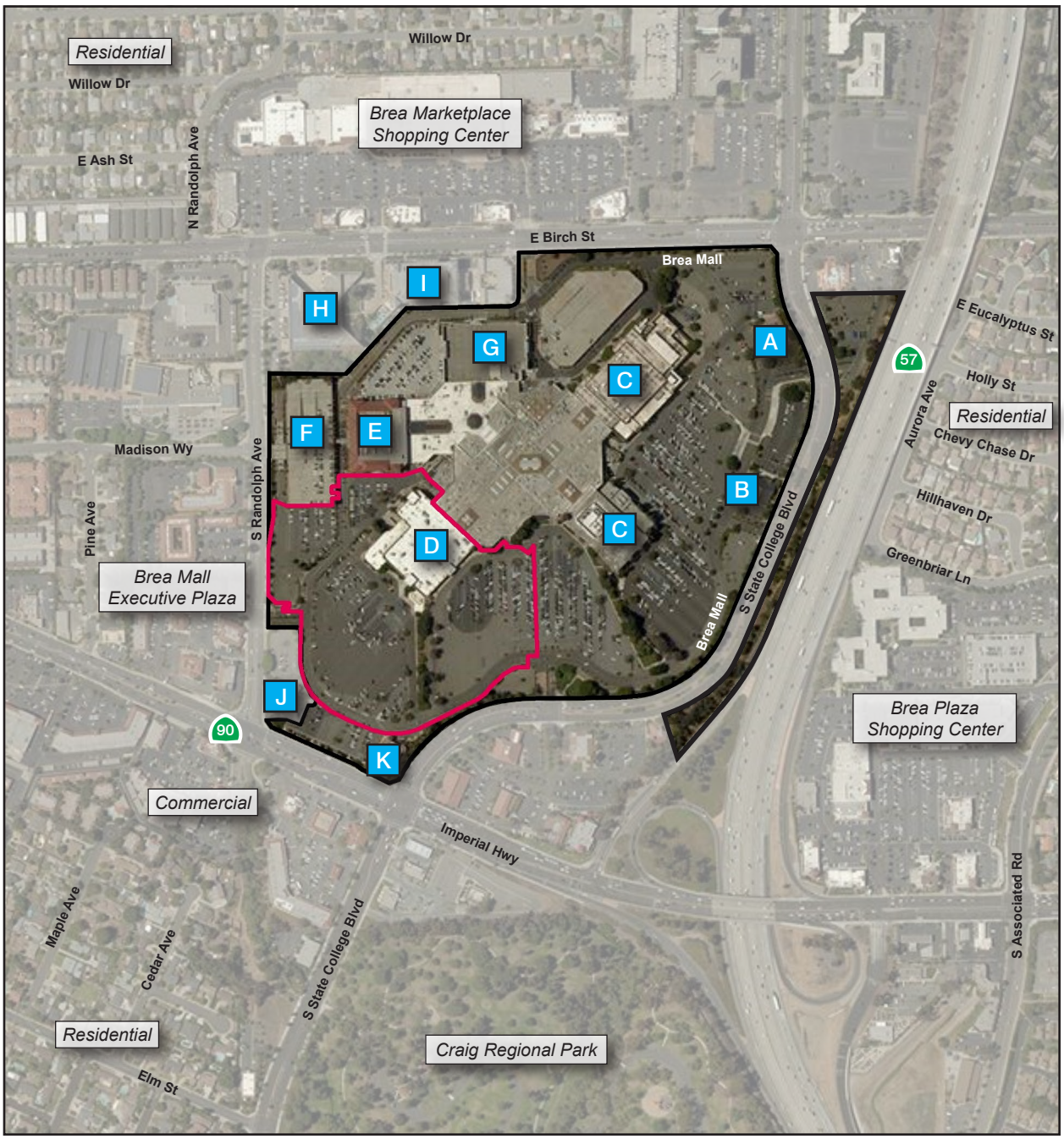
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Source: ESRI, 2020

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Figure ES-3 - Aerial Photograph
1. Executive Summary



Brea Mall Boundary

Project Area Boundary

A	Olive Garden	F	Nordstrom Parking Structure	K	Cheesecake Factory
B	Red Lobster	G	JC Penney		
C	Macy's	H	Brea Civic Center		
D	Sears	I	Embassy Suites		
E	Nordstrom	J	BJ's Brewhouse		

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Scale (Feet)

Source: ESRI, 2020

1. Executive Summary

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The Brea Mall is primarily owned by four entities. The Simon Property Group (Simon Properties) owns approximately 43 acres of the mall—including the recently acquired 13.2-acre Sears' parcel and the area leased to JC Penney. Nordstrom, Macy's Men[2], and Macy's also own 6.83 acres, 12.72 acres, and 11.90 acres of the mall, respectively. Brea Mall ownership is identified in Figure ES-4, *Accessor's Parcel Map*. The Assessor's Parcel Numbers (APNs) for Brea Mall are shown in Table ES-1, *Brea Mall Accessor's Parcel Numbers*.

Table ES-1 Brea Mall Accessor's Parcel Numbers

APN	Acres [1]	Current Ownership
319-101-26	11.90	Macy's
319-101-37	13.22	Simon Properties (Former Sears Parcel)
319-101-62	2.45	Nordstrom
319-101-63	4.01	Nordstrom
319-101-64	22.20	Simon Properties
319-101-71	1.95	Simon Properties (JC Penney)
319-101-73	2.13	Simon Properties
319-101-75	0.37	Nordstrom
319-101-76	0.02	Simon Properties
319-101-79	0.49	Macy's Mens [2]
319-101-80	12.23	Macy's Mens [2]
319-103-22	2.84	Simon Properties
Total Acreage	73.81	

Notes:
[1] Acreage is based on Assessor records.
[2] Under separate ownership.

1.5 PROJECT SUMMARY

As a result of its recent acquisition of the Sears parcel, the Simon Property Group (Simon Properties, or Applicant) is proposing redevelopment of the Sears parcel and adjoining transition areas adjacent to Nordstrom and Macy's on the southwest portion of the Brea Mall. The project area would be up to 17.5 acres ("project area"). The proposed project involves demolishing the Sears department store and associated auto center (161,990 square feet) and 12 acres of surface parking in order to allow a mix of uses—including retail, for-rent residential apartments, a resort-type fitness center, and a gathering space (large "central green" and plaza). Figure ES-5, *Conceptual Site Plan*, shows the overall conceptual site plan, including both the residential and retail components. Table ES-2, *Brea Mall Mixed Use Project Land Use Summary*, identifies the existing and proposed improvements. The proposed project would result in a net increase of 149,625 square feet of commercial square footage and 312 residential units. At buildout of the proposed project, the Brea Mall would have total of 1,441,058 square feet of commercial square feet.

[2] Under separate ownership.

Table ES-2 Brea Mall Mixed Use Project Land Use Summary

Tenant	Existing Commercial Square Feet	Demolition Commercial Square Feet	New Construction Commercial Square Feet	Total Mall Commercial Square Feet
Major Department Stores				
Sears	161,990	-161,990	—	0
Macy's[1]	182,360	—	—	182,360
Nordstrom	176,540	—	—	176,540
JC Penney	135,800	—	—	135,800
Macy's Men[2] & Home	192,060	—	—	192,060
Total Major Department Stores	**848,750**	**-161,990**	**0**	**686,760**
Other Commercial				
Sporting Goods	—	—	50,019	50,019
Lifestyle Fitness Center	—	—	128,000	128,000
Level 1 Mall	224,522	—	123,053	347,575
Level 2 Mall	207,992	—	10,543	218,535
Total Other Commercial	**432,514**	**0**	**311,615**	**744,129**
Outlots[1]				
Cheesecake Factory Outlot	10,169	—	—	10,169
Total Mall	**1,291,433**	**-161,990**	**311,615**	**1,441,058**
Mixed Use Residential				
Medium Density Residential (7-story)	—	—	312 units	312 units
Residential Square Feet[3]	—	—	382,994	
Net Change from Existing	**—**	**—**	**312 units**	**149,625**

Notes:
1 Macy's owns the buildings occupied by Red Lobster and Olive Garden; therefore, the commercial square footage for Macy's includes these restaurants. BJ's is not owned by Simon Properties or the retail anchors; therefore, the square footage for this outlot facility is not included in this table.
2 Under separate ownership
3 The residential building square footage is based on the gross square footage under the California Building Code.

1.5.1 Mixed-Use Residential Building

The residential component of the proposed project would be developed south of the Nordstrom's parking structure. The 382,994-square-foot residential building would be six to seven stories above ground-floor commercial with some residential units at grade level. The residential building would be approximately 60 feet and 6 inches to the top of the seventh story, and the highest point of the building would be 89 feet and 8 inches to the top of the roof. The proposed residential component of the project would include a variety of indoor and outdoor amenities. Within the 382,994-square-foot residential building, a total of 14,605 square feet of indoor amenities would be provided, including the leasing office, fitness center, mail room, and clubhouse. In addition, a total of 33,521 square feet of outdoor amenities would be provided, including terraces, an outdoor lounge, courtyard, roof deck, and amenity deck. Figure ES-6, *Conceptual Residential Building Site Plan,* shows the conceptual site plan for the proposed residential building. As shown in Figure ES-6, some of the residential use would be located above the ground-floor level retail.

Figure ES-4 - Assessor Parcel Map

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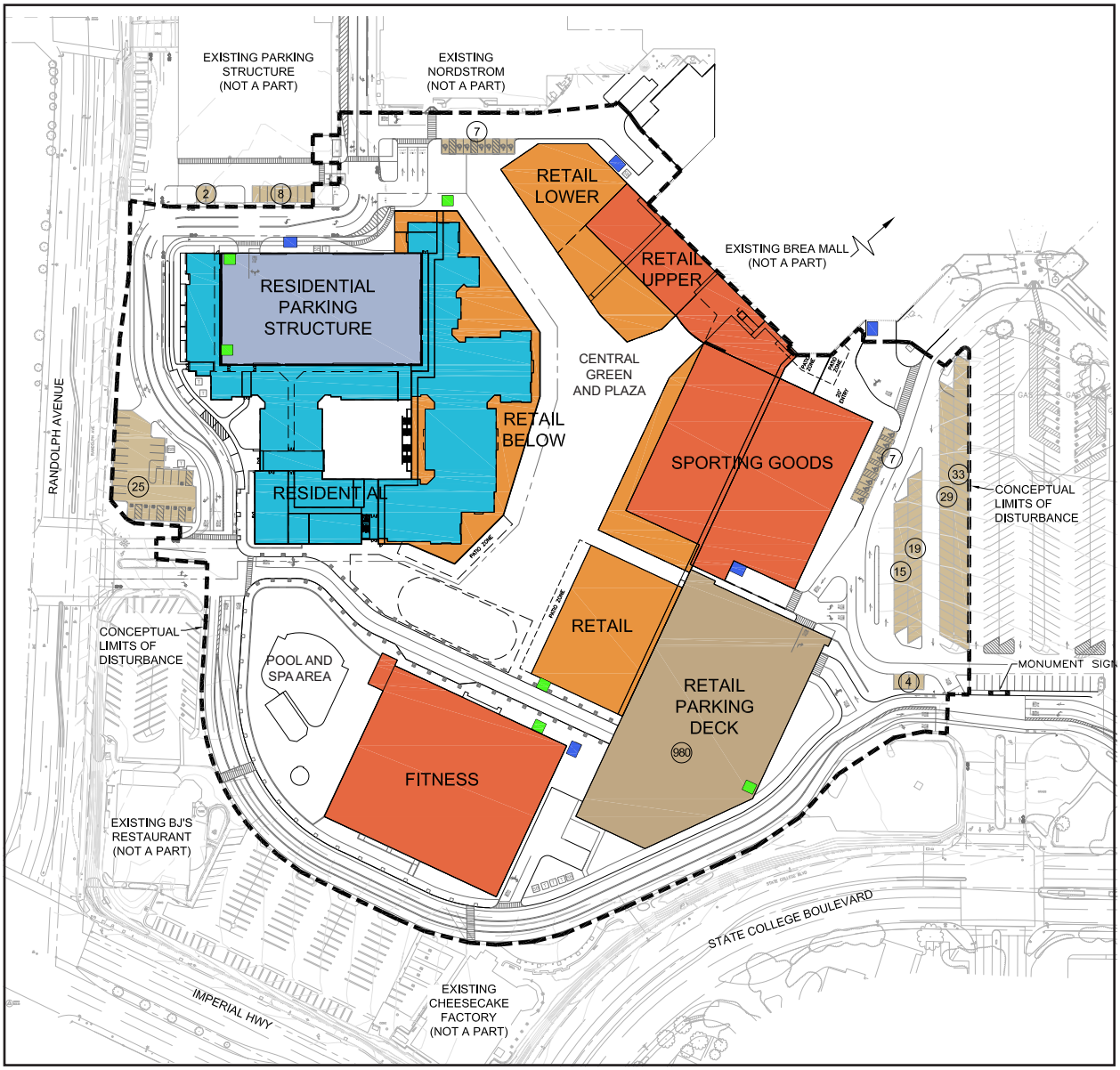
Source: ESRI, 2019

Note: Macy's Men is under separate ownership.

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Figure ES-5 - Conceptual Site Plan
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Project Area Boundary

(#) Number of Parking Spaces

Trash Staging Areas
- Retail: (4) Locations
- Residential: (1) Location
  (Note: Residential Collection Rooms within Residential Garage)

Bicycle Racks/Locker Areas
- Retail: Locations for 57 Biles Including within Retail Parking Garage
- Residential: Locations for 70 Bikes within Residential Garage

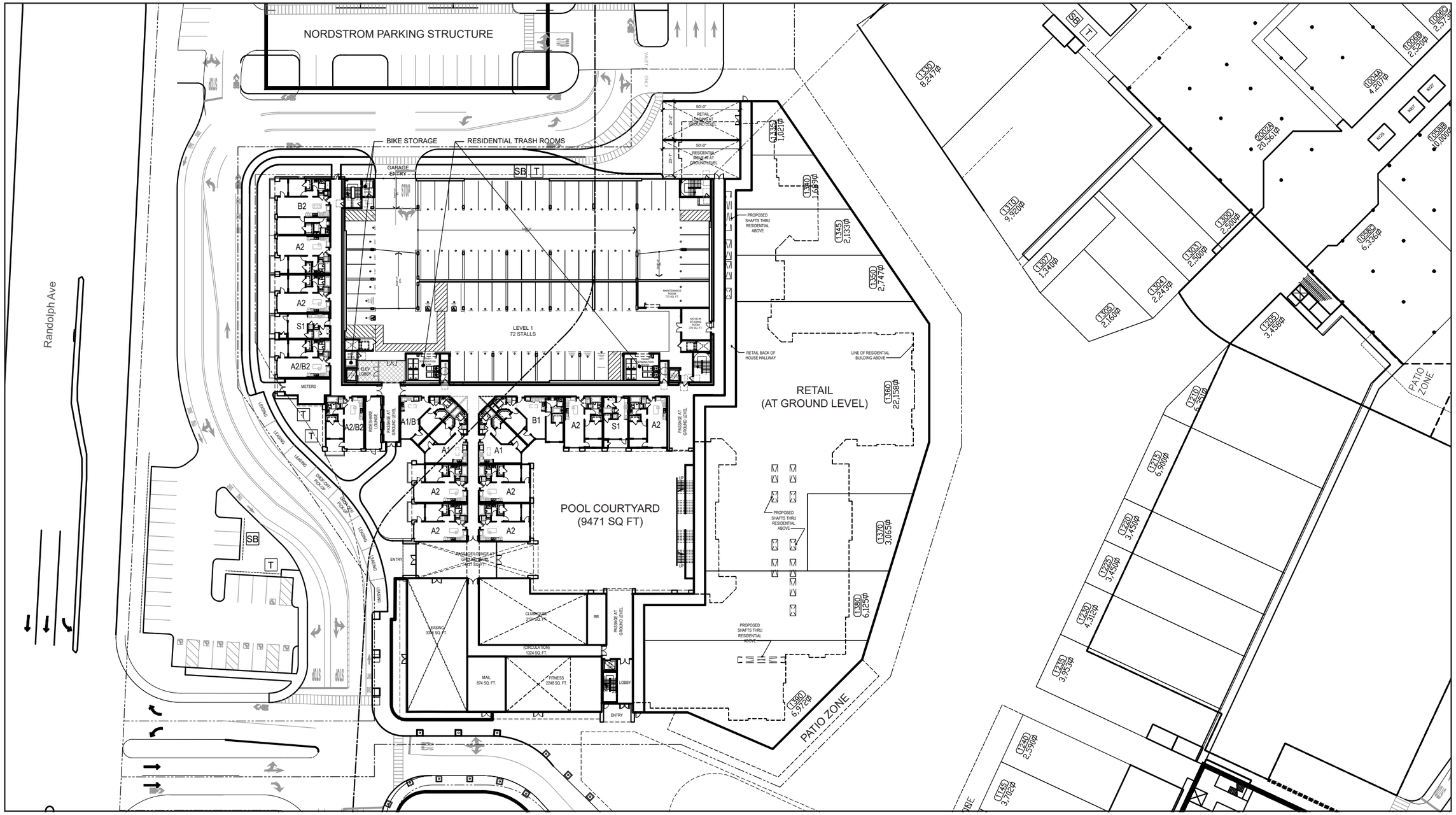
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Source: AO, 2019

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Figure ES-6 - Conceptual Residential Building Site Plan



Source: Architects Orange, 2019

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1.5.2 Mall Buildings and Central Green and Plaza

Figure ES-7, *Conceptual Mall Buildings Site Plan,* shows the site plan for the main retail component and central green. The retail component of the proposed project would be two levels centered around the central green and plaza. The entry section would be approximately 45 feet and 6 inches to the top of the canopy and 33 feet to the top of the second-floor storefront. The lower level retail would be 23 feet and 6 inches to the top of the parapet and 22 feet to the top of the roof, and the upper level retail would be 38 feet and 6 inches to the top of the parapet and 36 feet to the top of the roof. The sporting goods store would be on the second level of the mall and would be 50,019 square feet. The highest point of the sporting goods store would be 44 feet and 6 inches. The retail stores would be on the ground floor and second floor of the mall and would encompass 133,596 square feet (123,053 square feet on level one and 10,543 square feet on level two).

To create a village feel in the mixed-use development, the project would include an approximately 1.5-acre central green that would be used as an open common area. The central green would include play areas for children, areas for seasonal outdoor sales, seating, and landscaping. The central green would be privately maintained and managed but open to the public. The project also includes a 0.3-acre plaza that would be used as open space for gatherings. The open space areas onsite could host annual events or an ice rink. See Figure ES-8, *Central Green and Plaza,* which shows the conceptual layout of the central green and plaza area.

The Brea Mall is currently open seven days a week—Monday through Saturday from 10 AM to 9 PM and Sunday from 11 AM to 7 PM. During the holiday season, the mall operates on special extended hours. The proposed project would not result in changes to the mall hours.

1.5.3 Lifestyle Fitness Center

The resort-type fitness center would be south of the central green and plaza. The 128,000-square-foot fitness center would be three stories and include a 32,128 square foot pool and spa. The three-story fitness center would be 61 feet tall at the peak of the entry parapet. The fitness center would also have a basement level for mechanical equipment. The lifestyle fitness center would operate Monday through Sunday from 4 am to midnight.

1.5.4 Parking

Retail Parking Structure and Surface Parking

The mall would include new retail parking spaces in a retail parking structure and surface parking. The proposed project would provide 149 surface spacing spaces on 2.98-acres of the project area. The retail parking structure would be six levels. At its highest point, the retail parking structure would be 68 feet tall. Guests and employees of the commercial space and fitness center would have unrestricted, unreserved access to the surface parking lots and retail parking structure. After the construction of the proposed project, there would be a total of 6,160 retail parking spaces at the Brea Mall.

Residential-Only Parking Structure

The residential uses would also be supported by a new, dedicated, six-level parking structure. There would be a total of 539 spaces in the residential-only parking structure.

1.5.5 Project Phasing

The Brea Mall Mixed Use Project would disturb up to 17.5 acres ("project area") of the 74-acre Brea Mall. Project construction would be phased over an approximately 25-month period, anticipated to commence in summer 2020 and ending in summer 2022. Construction equipment would include, but is not limited to, scrapers and graders for grading, excavators for utility installation, backhoes for foundation excavation, cranes and saws for building construction, paving machines, and plaster guns for interior and exterior coating.

1.5.6 Lot Line Adjustment

As shown in Figure ES-9, *Lot Line Adjustment*, and Table ES-3, *Lot Line Adjustment,* the project includes a lot line adjustment to the former Sears parcel to accommodate the proposed residential component of the project. The lot line adjustment would isolate the residential portion of the project area, which is on 3.91 acres. The proposed lot line adjustment would result in a 0.37-acre reduction to the Nordstrom parcel, because the lot line adjustment for the residential parcel would include portions of the surface parking lot on the Nordstrom parcel.

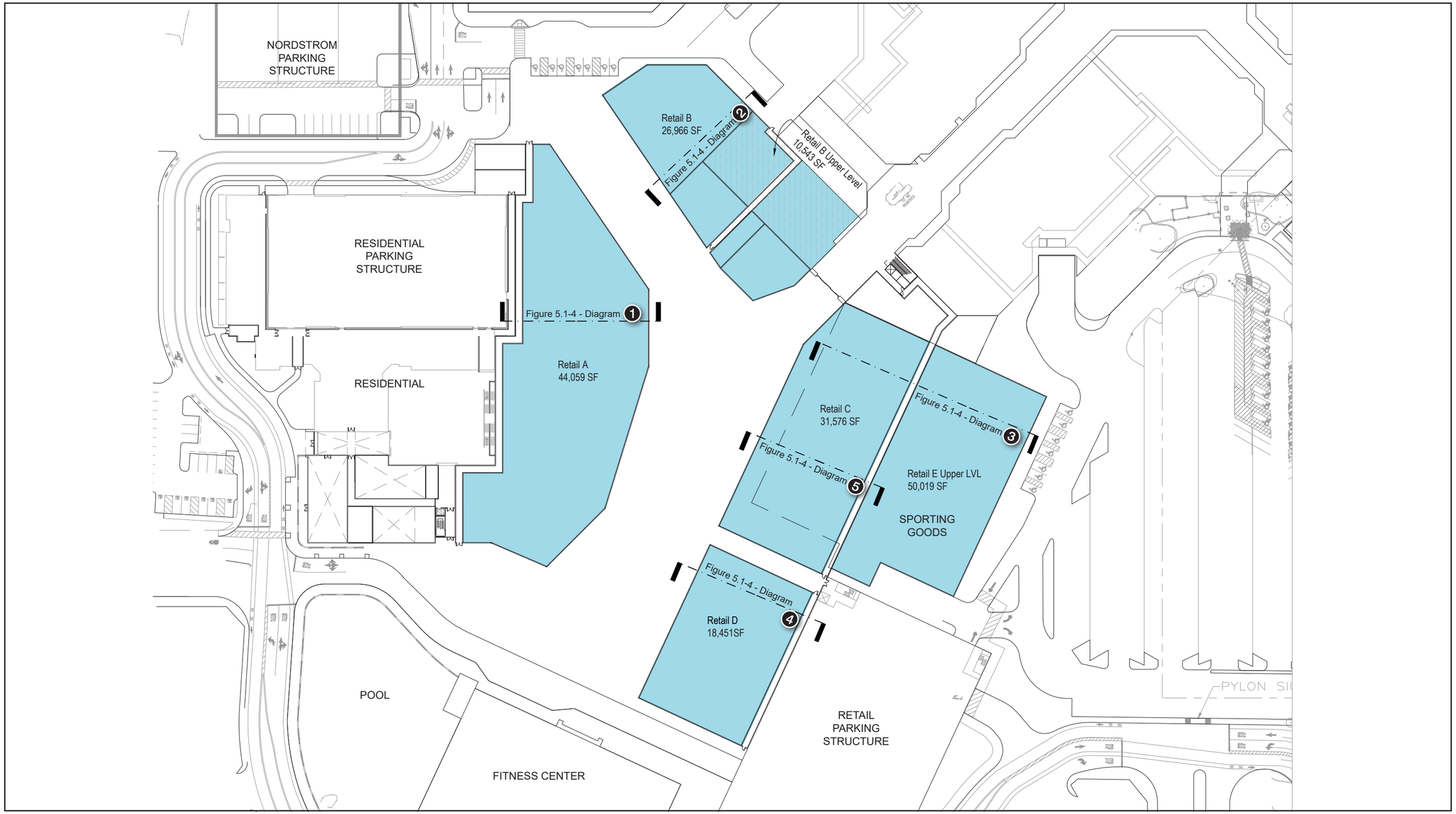
Table ES-3 Lot Line Adjustment

Parcel Designation	Existing Parcel	Proposed Parcel	Change	Proposed Land Use Designation
Brea Mall Parcel	24.17 Acres	35.00 Acres	+10.83 Acres	Mixed Use I (MU-I)
Proposed Residential Parcel (Includes Former Sears Parcel)	14.37 Acres	3.91 Acres	-10.46 Acres	Mixed Use I (MU-I)
Nordstrom Parcel	6.87 Acres	6.50 Acres	-0.37 Acres	No Change
Total	**45.41 Acres**	**45.41 Acres**	**NA**	**NA**

1.5.7 General Plan Amendment and Zone Change

The City of Brea General Plan Land Use designation for the Site is Regional Commercial with an FAR of 0.65. The Brea Mall is zoned C-C Major Shopping Center Zone, with a P-D Precise Development overlay. The C-C designation provides for the development of large, modern shopping center facilities to serve the community. Retail and restaurant uses are permitted by right in this zone. The proposed project would require a General Plan Amendment and zone change to Mixed Use I for the 3.91-acre residential parcel and the 35.00-acre Brea Mall Parcel that is affected as a result of development of the proposed project, as shown in Table 3-6. The result would be two Mixed Use I (MU-I) parcels, totaling 38.91 acres , as shown in Table ES-3.

Figure ES-7 - Conceptual Mall Buildings Site Plan



Note: Refer to corresponding cross-section diagrams in Chapter 5.1 Aesthetics.

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Source: 505 Design, 2019

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Figure ES-8 - Central Green and Plaza



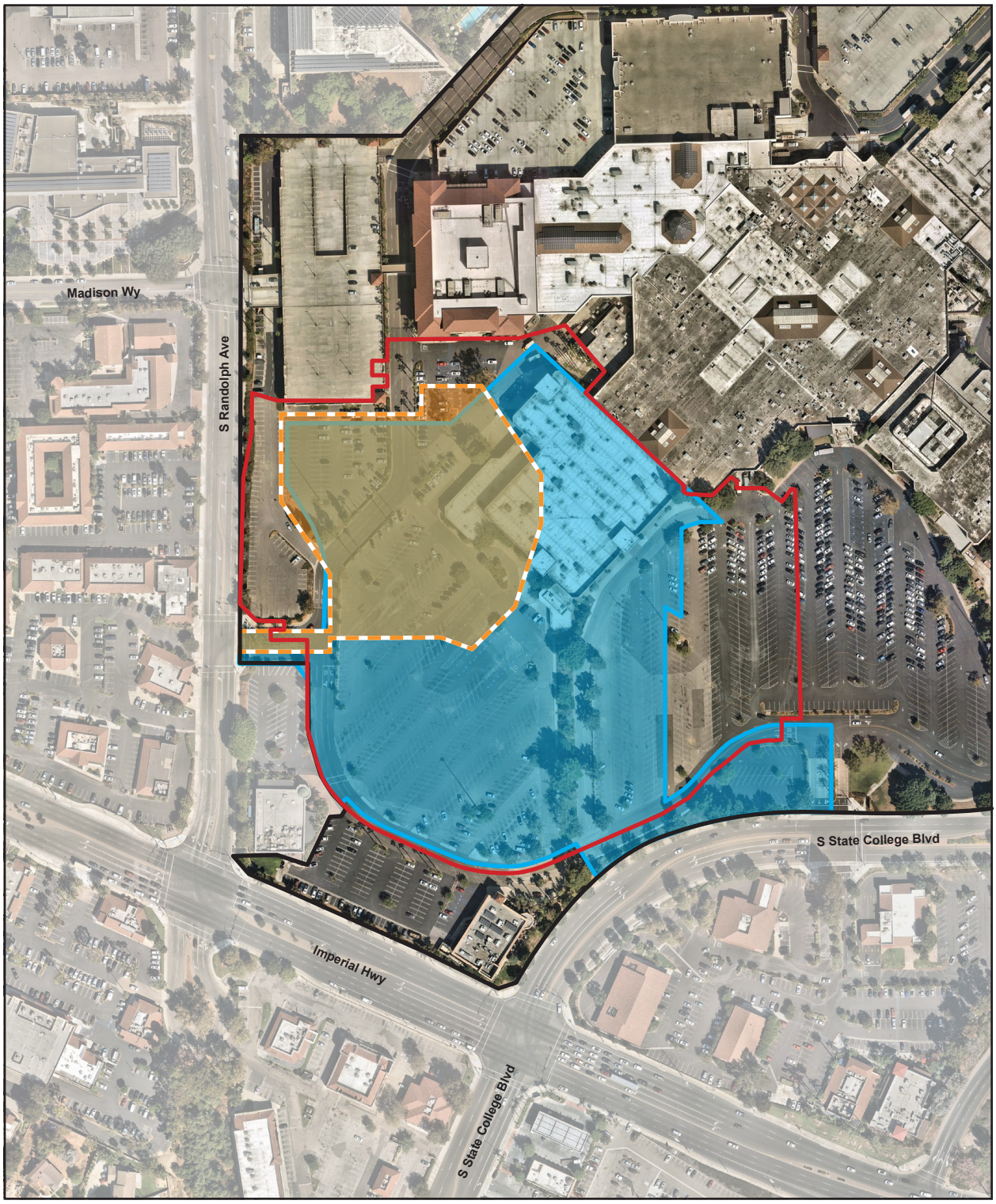
Source: 505 Design, 2019

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Figure ES-9 - Lot Line Adjustment

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Note: The Existing Property Line is based on the adjusted Sears property line based on a May 5, 2018 Alta Survey for the Sears' parcel.

Source: Nearmap, 2020

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1.6 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines (§ 15126.6[a]) state that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain 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." The alternatives in this DEIR were based, in part, on their potential ability to reduce or eliminate the impacts determined to be significant and unavoidable for implementation of the Brea Mall Mixed Use project (see Table ES-4, *Summary of Environmental Impacts, Mitigation, and Levels of Significance After Mitigation*). The project alternatives were not reviewed for financial feasibility. Project alternatives are assessed in further detail in Chapter 7, *Alternatives to the Proposed Project*.

1.6.1 No Project Alternative

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this alternative is also based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted and no development would occur onsite. The project area would remain as is, and the existing Sears building would be leased over time for commercial uses; therefore, there would be no residential development or an increase in commercial square footage, nor any associated residents or an increase in employees.

1.6.1.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

The No Project Alternative would lessen the proposed project's insignificant environmental impacts in the areas of air quality, cultural and paleontological resources, energy, greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, recreation, tribal cultural resources, and utilities and service systems. This alternative would increase impacts to aesthetics and population and housing but would avoid the project's significant transportation impact to Caltrans facilities.

The No Project Alternative would maintain the site as the existing Brea Mall. Therefore, none of the project objectives would be achieved under this alternative. The No Project Alternative would not provide any of the project benefits that would occur with implementation of the proposed project, including increasing the number of residential units based on regional growth projections and increasing employment opportunities in the City. Residential uses have different peak hour travel characteristics than retail uses; and therefore, this alternative would not meet project objectives regarding providing uses that have different peak hour travel characteristics to reduce traffic congestion. This alternative would not improve the City's jobs-housing balance or provide any public benefits associated with the creation of the onsite open space areas.

1.6.2 Reduced Retail Intensity Alternative

The Reduced Retail Intensity Alternative would result in a 50 percent reduction of commercial square feet from the proposed project. This alternative would result in demolition of the 161,990-square-foot former Sears building and subsequent construction of 236,803 square feet of nonresidential buildings, a smaller

three-story retail parking structure, and the 312-unit residential building and parking structure. This alternative assumes that instead of development of a lifestyle fitness center, a smaller one-story 35,000-square-foot fitness center would be developed on the southern portion of the project boundary. Additionally, a two-story addition to the mall would include the 50,019-square-foot sporting goods store plus 151,784 square feet of retail uses. No changes to the residential component or the central green and plaza would occur under this alternative. As a result, this alternative would add 74,813 commercial square footage and 312 dwelling units.

1.6.2.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

The Reduced Retail Intensity Alternative would lessen the proposed project's insignificant environmental impacts in the areas of air quality, energy, greenhouse gas emissions, noise, population and housing, and public services. This alternative would result in similar impacts as the proposed project to aesthetics, cultural and paleontological resources, hazards and hazardous materials, land use and planning, recreation, tribal cultural resources, and utilities and service systems. This Alternative would reduce but would not eliminate the project's significant and unavoidable transportation impact to Caltrans facilities.

The Reduced Retail Intensity Alternative would result in a reduction of the retail component of the project and generate 106 fewer employees compared to the proposed project. Therefore, this alternative would meet the project objectives but to a lesser extent than the proposed project. Therefore, the Reduced Retail Intensity Alternative has been identified as the environmentally superior alternative because it would lead to the greatest reduction in vehicle trips and associated transportation impacts, although it would not eliminate the project's significant transportation impact.

1.6.3 No Residential Alternative

Unlike the proposed project, this alternative would not result in the construction of the 312 dwelling units, and the General Plan Amendment and Zone Change from Major Shopping Center Zone (C-C) to Mixed Use I (MU-I) would not be required. This alternative would result in similar commercial square footage allowed under the 1987 Development Agreement, which was 1,468,400 square feet. This alternative, like the proposed project, would result in an increase in commercial square footage but 565 fewer residents and 39 additional employees. The residential portion of the project would be restriped and utilized for surface parking.

1.6.3.1 ABILITY TO REDUCE ENVIRONMENTAL IMAPCTS

This alternative would lessen the proposed project's insignificant environmental impacts in the areas of land use and planning, public services, recreation, and utilities and service systems. It would result in similar impacts to aesthetics, cultural and paleontological resources, hazards and hazardous materials, and tribal cultural resources. This alternative would result in slightly higher environmental impacts to air quality, energy, greenhouse gas emissions, noise, and population and housing. This Alternative would reduce but would not eliminate the project's significant and unavoidable transportation impact to Caltrans facilities.

Because this alternative would not develop the residential component of proposed project, it would not achieve all of the project objectives, including increasing housing units in the City or improving the jobs-

housing balance. It would meet the objective to revitalize the mall because the Sears property would be redeveloped, but to a lesser extent than the proposed project. Additionally, residential uses have different peak-hour travel characteristics than retail uses; and therefore, this alternative would not meet objectives to provide uses that have different peak hour characteristics that help reduce traffic congestion. This alternative would meet objectives related to providing open space and additional retail near the Brea Transit Center.

1.6.4 Reduced Density Residential Alternative

The residential density range for development in the Mixed Use I (MU-I) zone is 12.1 to 50 units per acre, and the maximum allowed FAR is 3.00. The proposed project's seven-story residential building on the 3.91-acre site is 80 units per acre; however, the MU-I zone allows for dwelling units-per-acre density to be applied to the project area rather than an individual parcel. Therefore, when averaged over the two proposed MU-I parcels, which total 38.91 acres, the residential averages at 8.0 units per acre.[3] This alternative would limit the residential density on the proposed 3.91-acre MU-I parcel to 50 units per acre, which is 195 units, and would result in a density of 5.0 units per acre across the two proposed MU-I parcels. This would result in 117 fewer dwelling units and 212 fewer residents compared to the proposed project, or a 37.5 percent reduction in residential density. No changes to the nonresidential component of the project are proposed. The Reduced Density Residential Alternative would result in a smaller residential parking structure and the residential building would be five stories tall rather than seven stories tall.

1.6.4.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

This alternative would lessen the proposed project's insignificant environmental impacts in the areas of air quality, energy, greenhouse gas emissions, land use and planning, noise, public services, recreation, and utilities and service systems. It would result in similar impacts to aesthetics, cultural and paleontological resources, hazards and hazardous materials, and tribal cultural resources. This alternative would have slightly higher population and housing impacts compared to the proposed project. This alternative would nominally reduce the project's significant and unavoidable transportation impact to Caltrans facilities.

This alternative would develop fewer residential units in order to achieve a density of 50 units per acre on the 3.91-acre parcel. Therefore, this alternative would meet the project objectives but to a lesser extent than the proposed project.

1.7 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:

1. Whether this DEIR adequately describes the environmental impacts of the project.

2. Whether the benefits of the project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.

[3] 312 units / 38.91-acre MU-I parcels = 8.0 units per acre. (35.00 acres + 3.91 acres= 38.91 acres, from Table ES-3)

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 project besides the Mitigation Measures identified in the DEIR.

6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

1.8 AREAS OF CONTROVERSY

In accordance with Section 15123(b)(2) of the CEQA Guidelines, the EIR summary must identify areas of controversy known to the lead agency, including issues raised by agencies and the public. Prior to preparation of the DEIR, the Notice of Preparation (NOP) was distributed for comment from August 16, 2019, to September 16, 2019. A public scoping meeting was held at the City of Brea on August 28, 2019. A total of 18 agencies/interested parties responded to the NOP, and 6 interested parties provided comments during the scoping meeting. NOP comment letters received during the review period are summarized in Chapter 2, *Introduction* (see Table 2-1, *NOP and Scoping Meeting Comment Summary*), and identify potential environmental issues associated with cultural resources, tribal cultural resources, air quality, transportation, land use and planning, noise, population and housing, public services, utilities and service systems, and greenhouse gas emissions.

1.9 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

Table ES-4, *Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation,* summarizes the conclusions of the environmental analysis contained in this EIR. Impacts are identified as significant or less than significant, and mitigation measures are identified for all significant impacts. The level of significance after imposition of the mitigation measures is also presented for the proposed project, including cumulative impacts.

Significant irreversible changes

The proposed project would cause significant irreversible changes should it be implemented. The construction and operation of the project would require the use of energy and resources that would limit the availability of such resources for future generations. The proposed project would require an increase commitment of social services and public maintenance services; and the proposed project would increase vehicle trips from the project area, which over the long term would contribute to air emissions. The construction of the proposed project would visually alter the project area. Given the low likelihood that the land at the project site would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

Growth-Inducing impacts

The proposed project was reviewed pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines. The proposed project would not be a precedent-setting action but may influence the conversion of exclusively commercial properties to mixed-use and/or residential uses. However, the impacts of subsequent actions would require environmental analysis and associated mitigation and would not significantly affect the environment. The project's housing and population would grow proportionate to the increase in uses and impacts to public services and utilities would be less than significant. While the proposed project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses in the proposed project.

1. Executive Summary

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Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.1 AESTHETICS			
5.1-1: The proposed project would not substantially alter the visual appearance of the project area.	Less Than Significant.	No mitigation measures required.	Less Than Significant.
5.1-2: The proposed project would not alter scenic resources within a state scenic highway.	No Impact.	No mitigation measures required.	No Impact.
5.1-3: The proposed project would generate additional light and glare.	Less Than significant.	No mitigation measures required.	Less Than Significant.
5.2 AIR QUALITY			
5.2-1: The proposed project is consistent with the applicable air quality management plan.	Less Than Significant.	No mitigation measures required.	Less Than Significant.
5.5-2: Construction activities associated with the proposed project would generate short-term emissions in exceedance of SCAQMD's threshold criteria.	Potentially Significant.	AQ-1 The construction contractor(s) shall, at minimum, use equipment that meets the United States Environmental Protection Agency's (USEPA) Tier 4 (Final) emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by Tier 4 emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations. Prior to construction, the project engineer shall ensure that all plans clearly show the requirement for USEPA Tier 4 emissions standards for construction equipment over 50 horsepower for the specific activities stated above. During construction, the construction contractor shall maintain a list of all operating equipment associated with building demolition in use on the site for verification by the City. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations.	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.2-3: Long-term operation of the project would not generate additional vehicle trips and associated emissions in exceedance of SCQMD's threshold criteria.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.2-4: Construction activities associated with the proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant.	No mitigation measures required.	Less Than Significant.
5.2-5: Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant.	No mitigation measures required.	Less Than Significant.
5.2-6: The proposed project would not result in other emissions (such as those leading to odors) adversely affective a substantial number of people.	Less Than Significant.	No mitigation measures required.	Less Than Significant.
5.3 CULTURAL AND PALEOTONOLOGICAL RESOURCES			
5.3-1: Development of the project would not impact historic resources.	No Impact.	No mitigation measures are required.	No Impact.
5.3-2: Development of the project could impact archaeological resources.	Potentially Significant.	CUL-1 Prior to issuance of grading permits, a qualified archaeological monitor shall be identified to be on call during ground-disturbing activities. If archaeological resources are discovered during excavation and/or construction activities, construction shall stop within 50 feet of the find, and the qualified archaeologist shall be consulted to determine whether the resource requires further study. The archaeologist shall make recommendations to the City of Brea to protect the discovered resources. Archaeological resources recovered shall be provided to an accredited museum such as the John D. Cooper Center in Fullerton or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.3-3: Grading activities could potentially disturb human remains, but compliance with existing regulations would ensure that impacts are less than significant.	Less Than Significant upon Implementation of PPP CUL-5.	No mitigation measures are required.	Less Than Significant.
5.3-4: Development of the project could impact paleontological resources or unique geologic features.	Potentially Significant.	CUL-2 Prior to construction, a qualified paleontologist shall monitor all excavations below five feet. If unique paleontological resources are discovered during excavation and/or construction activities, construction shall stop within 50 feet of the find, and the qualified paleontologist shall be consulted to determine whether the resource requires further study. The paleontologist shall make recommendations to the City of Brea to protect the discovered resources. Any paleontological resources recovered shall be provided for curation at a local curation facility such as the Los Angeles County Natural History Museum, the John D. Cooper Center in Fullerton, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.	Less Than Significant.
5.4 ENERGY			
5.4-1: The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.4-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.5 GREENHOUSE GAS EMISSIONS			
5.5-1: Implementation of the proposed project would not generate a net increase in GHG emissions, either directly or indirectly, that would have a significant impact on the environment.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.5-2: Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.6 HAZARDS AND HAZARDOUS MATERIALS			
5.6-1: Project construction and operations of the proposed project could involve the transport, use, and/or disposal of hazardous materials; however, compliance with existing local, state, and federal regulations would ensure impacts are minimized.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.6-2: Project construction activities may disturb contaminants in the soil associated with the site's former automotive center and could create a significant hazard to the public or the environment.	Potentially Significant.	HAZ-1 Prior to issuance of grading permits, the project applicant shall prepare a soil management plan (SMP) to ensure safe and appropriate handling, transportation, offsite disposal, reporting, oversight, and protocols used during construction to protect the health and safety of workers and future residents. The SMP shall be submitted to the City prior to issuance of a grading permit. The plan shall establish methodology and procedures to perform additional testing during grading if unknown hazardous materials are encountered and prior to grading for the soil stockpile. If additional contamination is discovered during grading activities, grading within that area shall be temporarily halted and redirected around the area until the appropriate evaluation and follow-up remedial measures are implemented in accordance with the soil management plan so that the area is suitable for grading activities to resume. If hydrocarbon impacted soil is encountered soil samples shall be collected and analyzed for total petroleum hydrocarbons (TPH) by the Environmental Protection Agency (USEPA) Method 8015M and volatile organic compounds (VOCs) by EPA Method 8260B. TPH results shall be compared to Orange County Health Care Agency TPH cleanup standards and VOCs shall be compared to screening levels as outlined in Department of Substances Control (DTSC) Human Health Risk Assessment Note No. 3 or EPA Regional Screening Levels (RSLs). Both DTSC and EPA RSLs are updated yearly and the most recent levels shall be used. If levels encountered are above the	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
		outlined screening levels, the OCHCA shall be notified. If soil remediation and/or export of hazardous materials must be performed in accordance with the appropriate agency requirements (Regional Water Quality Control Board, DTSC, South Coast Air Quality Management District).	
5.6-3: The project site is not within one-quarter mile of an existing school; the proposed project would not emit substantial quantities of hazardous emissions, and use of hazardous materials on-site would be regulated by existing local, state, and federal regulations.	No Impact.	No mitigation measures are required.	No Impact.
5.6-4: The project site is on a list of hazardous materials sites; however, no existing violations are listed.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.6-5: The project site is not in the vicinity of an airport or within the jurisdiction of an airport land use plan.	No Impact.	No mitigation measures are required.	No Impact.
5.6-6: Project development would not affect the implementation of an emergency response or evacuation plan.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.6-7: The project site is not in a designated Very High Fire Hazard Severity Zone and would not expose structures and/or residences to fire danger.	No Impact.	No mitigation measures are required.	No Impact.
5.11 LAND USE AND PLANNING			
5.7-1: Project implementation would not divide an established community.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.7-2: Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.8 NOISE			
5.8-1: Construction activities would result in temporary noise increases in the vicinity of the proposed project that would not exceed standards.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.8-2: Project implementation would result in long-term operation-related noise that would not exceed standards.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.8-3: The project would not create excessive short-term or long-term groundborne vibration.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.8-4: The proximity of the project site to an airport or airstrip would not result in exposure of future residents or workers to excessive aircraft noise.	No Impact.	No mitigations measures are required.	No Impact.
5.9 POPULATION AND HOUSING			
5.9-1: The proposed project would directly result in population growth of approximately 565 residents and 213 employees in the project area but would not induce substantial additional growth.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.9-2: Project implementation would not displace people and/or housing.	No Impact.	No mitigation measures are required.	No Impact.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.10 PUBLIC SERVICES			
FIRE PROTECTION AND EMERGENCY SERVICES			
5.10-1: The proposed project would introduce new structures, 565 residents, and 213 employees into the City of Brea Fire Department service boundaries, thereby increasing the requirement for fire protection facilities and personnel.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
POLICE PROTECTION			
5.10-2: The proposed project would introduce new structures, 565 residents, and 213 employees into the City of Brea Police Department service boundaries, thereby increasing the requirement for police protection facilities and personnel.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
SCHOOL SERVICES			
5.10-3: The proposed project would generate 214 students who would impact the school enrollment capacities of the Brea Olinda Unified School District.	Less Than Significant Upon Implementation of PPP PS-6 and PS-7.	No mitigation measures are required.	Less Than Significant.
PARKS			
5.10-4: The proposed project would introduce 565 residents to the project site; however, the City has adequate parkland, and the project would not have significant impacts to parks.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
LIBRARY SERVICES			
5.10-5: The proposed project would introduce 565 residents to the project site, which would increase the service needs for the Brea Branch Library.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.11 RECREATION			
5.11-1: The proposed project would generate 565 residents that could increase the use of existing park and recreational facilities.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.11-2: Project implementation would not result in environmental impacts due to the provision of new and/or expanded recreational facilities.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.12 TRANSPORTATION			
5.12-1: The project could potentially conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Potentially Significant.	The traffic impact analysis identified the following potential mitigation measures for intersections #16-Harbor Boulevard at Imperial Highway, #18-Brea Boulevard at Imperial Highway, #19-Randolph Avenue at Imperial Highway, #20-State College at Imperial Highway, #22-State Route 57 Northbound Ramps at Imperial Highway, and #23-Associated Road at Imperial Highway: **#16 Harbor Boulevard at Imperial Highway**. • Widen the west leg to provide an exclusive eastbound right-turn lane. Right-of-way acquisition would be required for this improvement. • Modify the existing traffic signal to provide southbound right-turn overlap phasing. **#18 – Brea Boulevard at Imperial Highway**. • Restripe the southbound approach to provide a third southbound through-lane. • Modify the existing traffic signal. **#19 – Randolph Avenue at Imperial Highway**.	Significant and Unavoidable.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
		• Restripe the northbound shared left-turn/through lane to a through lane. • Modify the existing traffic signal to convert the split phasing on Randolph Avenue to protected left-turn phasing and eight-phase operation. **#20 – State College Boulevard at Imperial Highway**. • Conduct minor widening and restripe the southbound approach to provide an exclusive southbound right-turn lane. • Modify the median and restripe the No. 2 southbound left-turn lane into a trap left turn lane. • Modify the existing traffic signal. • In conjunction with the lengthening of the southbound left-turn lane it is recommended that the No. 2 eastbound through lane along Imperial at the SR-57 southbound on-ramp be converted to a shared through/right-turn lane. **#22 – SR-57 NB Ramps at Imperial Highway.** • Widen and/or restripe the off-ramp to provide a second exclusive northbound right-turn lane. • Modify the existing traffic signal. **#23 – Associated Road at Imperial Highway.** • Restripe the exclusive southbound right-turn lane to a shared through/right-turn lane. • Modify the existing traffic signal. However, these improvements are within Caltrans' right-of-way and are subject to Caltrans review and approval. In addition, Caltrans has no mechanism by which projects can contribute fair share fees to offset impacts. Therefore, the mitigation measure was considered but determined to be infeasible. TRAF-1 Prior to issuance of a building permit, the City and Caltrans shall jointly identify feasible operational and physical improvements and the associated fair-share funding contribution necessary to mitigate project-related direct and	

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
		indirect impacts to state transportation facilities, including these intersections: #16 Harbor Boulevard at Imperial Highway, #18 Brea Boulevard at Imperial Highway, #19 Randolph Avenue at Imperial Highway, #20 State College Boulevard at Imperial Highway, #22 SR-57 NB Ramps at Imperial Highway, and #23 Associated Road at Imperial Highway.	
5.12-2: The project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).	No Impact.	The City of Brea has an opt-in period until July 1, 2020, to adopt the guidelines and new VMT-based criteria. Currently the City of Brea continues to use its established LOS criteria. Therefore, this analysis relies on currently adopted LOS methodologies and criteria to evaluate transportation impacts. No mitigation measures are required.	No Impact.
5.12-3: Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. However, based on the level of congestion and collision history at State College and Imperial Highway, vehicles changing lanes to access the freeway create safety hazards and the project would cumulatively contribute to safety hazards.	Potentially Significant.	Caltrans has identified that the intersection of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway have elevated incidence of collisions compared to the state average. These collisions are due to vehicles making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway. Safety at the intersection #20, State College Boulevard and Imperial Highway, could be improved by via modifying the SR-57 SB on-ramp to allow for two lanes onto the freeway and signal upgrades to enhance safety. No correctable conditions were identified for the intersection #19, Randolph Avenue and State College Boulevard. However, these improvements are within the jurisdiction authority of Caltrans. Caltrans has no mechanism by which projects can contribute fair share fees to offset cumulative impacts. Therefore, the mitigation measures were considered but determined to be infeasible: **#20 – State College Boulevard at Imperial Highway**. Modify the east bound approach to accommodate two through lanes, a shared through/right-turn lane and an exclusive right-turn lane. **#21 – SR-57 SB Ramps at Imperial Highway**. Modify the SR-57 SB On-Ramp to allow for two lanes onto the freeway.	Significant and Unavoidable.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.13 TRIBAL CULTURAL RESOURCES			
5.13-1: The proposed project would cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant pursuant to criteria in Public Resources Code section 5020.1(k).	Potentially Significant.	Implementation of Mitigation Measure CUL-1 and the following measures: TCR-1 If the professional archaeologist implementing Mitigation Measure CUL-1 believes that a cultural resource encountered onsite is of Native American origin, the archaeologist shall notify representatives of Native American tribes with traditional territories in the project region. If requested by the Native American tribe(s), the developer or archaeologist on call shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe). If the resources are Native American in origin, a tribal monitor from the consulting tribe shall be present during the remaining site-grading activities. TCR-2 During construction activities, the project applicant shall allow archaeological monitors of Native American tribes to access the project site on a volunteer basis to monitor grading and excavation activities.	Less Than Significant.
5.14 UTILITIES AND SERVICE SYSTEMS			
5.14-1: Project-generated wastewater could be adequately treated by the wastewater service provider for the project.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.14-2: Adequate water supply and delivery systems are adequate to meet project requirements.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.
5.14-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.

1. Executive Summary

Table ES-4 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation (Project and Cumulative Impacts)
5.14-4: Existing and/or proposed facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations.	Less Than Significant.	No mitigation measures are required.	Less Than Significant.

Note:
PPP: plans, programs, and policies

2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This draft environmental impact report (DEIR) has been prepared to satisfy CEQA and the CEQA Guidelines. The environmental impact report (EIR) is the public document designed to provide decision makers and the public with an analysis of the environmental effects of the proposed project, to indicate possible ways to reduce or avoid environmental damage and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The lead agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Public Resources Code § 21067). The City of Brea has the principal responsibility for approval of the Brea Mall Mixed Use Project. For this reason, the City of Brea is the CEQA lead agency for this project.

The intent of the DEIR is to provide sufficient information on the potential environmental impacts of the proposed Brea Mall Mixed Use Project to allow the City of Brea to make an informed decision regarding approval of the project. Specific discretionary actions to be reviewed by the City are described in Section 3.4, *Intended Uses of the EIR*.

This DEIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, §§ 21000 et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations, Title 14, §§ 15000 et seq.)

The overall purpose of this DEIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the development and operation of the proposed Brea Mall Mixed Use Project. This DEIR addresses effects that may be significant and adverse; evaluates alternatives to the project; and identifies mitigation measures to reduce or avoid adverse effects.

2.2 NOTICE OF PREPARATION PROCESS

The City of Brea determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) on August 16, 2019 (see Appendix A). Comments received during the NOP's public review period, from August 16, 2019, to September 16, 2019, are in Appendix A.

Prior to the preparation of the DEIR, an EIR scoping meeting was held on August 28, 2019, in the City of Brea. Table 2-1, *NOP and Scoping Meeting Comment Summary*, summarizes the issues identified by the commenters during the NOP comment period and scoping meeting. The table provides a brief summary of the comment and a reference to the section(s) of this DEIR where the environmental issue is addressed. A total of 18 agencies/interested parties responded to the NOP, and 6 interested parties provided comments during the scoping meeting. This DEIR has taken those responses into consideration when addressing the environmental issues in Chapter 5 of this DEIR.

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed In Chapter/Section:
Agencies				
Native American Heritage Commission (NAHC)	8/23/19	Cultural Resources Tribal Cultural Resources	▪ Protocol for evaluation of cultural and historic resources. ▪ Tribal consultation requirements under Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18).	5.2 3, Cultural Resources 5.13, Tribal Cultural Resources
South Coast Air Quality Management District (SCAQMD)	9/10/19	Air Quality Alternatives	▪ Air quality and health risk assessment methodology. ▪ Exposure of residents to elevated concentrations of air pollutant emissions. ▪ Alternatives	5.2, Air Quality 7, Alternatives to the Proposed Project
California Department of Transportation (Caltrans)	9/13/19	Transportation	▪ Traffic analysis methodology and impacts to Caltrans facilities. ▪ Consideration of bicycle and pedestrian facilities.	5.12, Transportation
Public				
James Pugh (Sheppard Mullin)	9/16/19	Land Use and Planning	▪ Requests that the City and applicant consider how construction and operation of the proposed project could impact Macy's land and operations. ▪ Land Use and Planning impacts ▪ Noise impacts ▪ Population and Housing impacts ▪ Public Services impacts ▪ Transportation impacts ▪ Utilities and Service Systems impacts	5.7, Land Use and Planning 5.8, Noise 5.9, Population and Housing 5.10, Public Services 5.12, Transportation 5.14, Utilities and Service Systems 8, Impacts Found Not to be Significant 4, Environmental Setting
Cynthia Lorene	8/28/19	Transportation	▪ Traffic assessment for daily, workday, and weekend traffic impacts. ▪ Parking impacts.	5.12, Transportation
Russ Sipple	8/28/19	Transportation	▪ Traffic due to residential component of the proposed project.	5.12, Transportation

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed In Chapter/Section:
John Windes	8/28/19	Transportation Land Use and Planning	▪ Density/height of the residential component. ▪ Safety associated with the mall ingress/egress. ▪ Building standards (windows in each residential unit)	5.7, Land Use and Planning 5.12, Transportation
Harry Drake	8/28/19	Transportation	▪ Contribution of fair-share costs for the SR-57 and Lambert Road intersection improvements.	5.12, Transportation
Terri Drake	8/28/19	Transportation	▪ Traffic access for the residential component during busy shopping seasons.	5.12, Transportation
Debbie Louis	8/28/19	Transportation	▪ Parking impacts.	5.12, Transportation
Susan Perlson	8/28/19	Population and Housing	▪ Workforce housing/affordability.	5.9, Population and Housing
Anonymous (part 1)	8/29/19	Land Use and Planning	▪ Requests that the fitness center and residential components of the proposed project be removed, the entertainment uses be added, and the parking structure expanded.	5.7, Land Use and Planning 5.9, Population and Housing 7, Alternatives to the Proposed Project
Anonymous (part 2)	8/30/19	Alternatives	▪ Requests alternatives to the proposed fitness center.	7, Alternatives to the Proposed Project
Jean Chung	8/31/19	Air Quality Land Use and Planning Transportation	▪ States opposition to proposed project (existing vacant retail buildings in Brea, traffic congestion, air quality).	5.2, Air Quality 5.7, Land Use and Planning 5.12, Transportation
Tom Kwan	9/5/19	Air Quality GHG Emissions Land Use and Planning Population and Housing Public Services Transportation	▪ Density of residential component and associated General Plan and Zoning Amendments. ▪ Exposure of residents to elevated concentrations of air pollutant emissions. ▪ GHG emissions associated with the project. ▪ Public service impacts. ▪ Workforce housing/affordability. ▪ Traffic impacts.	5.2, Air Quality 5.5, GHG Emissions 5.7, Land Use and Planning 5.9, Population and Housing 5.10, Public Services 5.12, Transportation
Ted Newman	9/12/19	Land Use and Planning Transportation	▪ Density/height of the residential component. ▪ Traffic impacts	5.7, Land Use and Planning 5.12, Transportation
Danielle Irwin	9/13/19	Transportation	▪ Traffic impacts.	5.12, Transportation
Ed Dougan	9/13/19	Alternatives	▪ Requests that the residential component be removed.	7, Alternatives
Guy Whitworth	9/13/19	Land Use and Planning	▪ States that residents enjoy free parking.	5.7, Land Use and Planning
Phyllis E.	9/13/19	Land Use and Planning	▪ States that the proposed project will ensure the project site is well maintained and would offer a variety of services/amenities.	5.7, Land Use and Planning
Al Holer	9/16/19	Land Use and Planning Alternatives	▪ Parking impacts. ▪ Requests that the fitness center component of the proposed project be removed in place of mall anchors.	5.7, Land Use and Planning 7, Alternatives to the Proposed Project

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed In Chapter/Section:
Dwight Manley	9/16/19	Transportation Land Use and Planning Project Description	▪ Parking impacts ▪ Density/height of the residential component. ▪ Traffic impacts. ▪ Safety associated with ingress/egress at Randolph Avenue. ▪ Alternatives (no entertainment uses) ▪ Hours of operation. ▪ Loading/unloading areas ▪ Fire safety for the residential component.	3, Project Description 5.7, Land Use and Planning 5.10, Public Services 5.12, Transportation 7, Alternatives
Kevin Gorham	9/16/19	Not applicable	▪ Supports the project.	Not applicable
Mitchell Tsai	9/16/19	Notification	▪ Request to be notified.	Not applicable
Bob Rosner	9/17/19	Land Use and Planning	▪ Loading/unloading for delivery vehicles	5.7, Land Use and Planning

2.3 SCOPE OF THIS DEIR

The NOP process helps determine the scope of the environmental issues to be addressed in the DEIR. Based on this process, certain environmental categories were identified as having the potential to result in significant impacts, and these categories can be found in Chapter 5, *Environmental Analysis*, in this DEIR. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the DEIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance. The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts.

2.3.1 Impacts Considered Less Than Significant

The City of Brea determined that six environmental impact categories were not significantly affected by or did not affect the proposed Brea Mall Mixed Use Project. These categories are evaluated in Chapter 8, *Impacts Considered Less Than Significant*.

- Agriculture and Forestry Resources
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality

- Mineral Resources
- Wildfire

2.3.2 Potentially Significant Adverse Impacts

The City of Brea determined that 14 environmental factors have potentially significant impacts if the proposed project is implemented, and these are evaluated in Chapter 5, *Environmental Impacts*.

- Aesthetics
- Air Quality
- Cultural and Paleontological Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

As discussed in Chapter 5, *Environmental Impacts*, Aesthetics, Energy, Greenhouse Gas Emissions, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, and Utilities and Service systems were found to be less than significant prior to mitigation. Air Quality, Cultural and Paleontological Resources, Hazards and Hazardous Materials, and Tribal Cultural Resources were found to be less than significant with mitigation. Transportation was found to be significant and avoidable and is further discussed below.

2.3.3 Unavoidable Significant Adverse Impacts

This DEIR identifies the following significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the proposed project.

- Transportation (Caltrans intersections and safety hazards on Imperial Highway)

Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. The City must prepare a "statement of overriding considerations" before it can approve the project, attesting 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 outweigh the adverse effects, and therefore the adverse effects are considered acceptable. Section 5.12, Transportation, in the DEIR considered mitigation measures that would mitigate impacts to Caltrans facilities. However, the installation of improvements within Caltrans right-of-way is subject to the approval of

Caltrans. Additionally, Caltrans does not have any mechanisms by which projects can contribute fair-share fees to offset impacts.

2.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this DEIR, consistent with Section 15150 of the CEQA Guidelines, and they are available for review at the City of Brea.

- **Final Environmental Impact Report (FEIR) for the Brea Mall/ Civic Center Area Expansion and Development Project (1985).** The FEIR for the Brea Mall/Civic Center Expansion and Redevelopment Project was certified on February 1, 1985. The Brea Mall was identified as Planning Area 2 in the 1985 FEIR. The FEIR evaluated expansion of the Brea Mall by 500,000 square feet—two new anchor tenants: 150,000 square feet each; third floor to the Nordstrom department store: 40,000 square feet; additional small shops: 160,000 square feet; and a third parking structure. The Brea Mall expansion was projected to generate approximately 920 additional employees.

- **City of Brea General Plan (2003):** The City of Brea General Plan serves as the major tool for directing growth within Brea and presents a comprehensive plan to accommodate the City's growing needs. The General Plan analyzes existing conditions in the City, including physical, social, cultural, and environmental resources and opportunities. The General Plan also looks at trends, issues, and concerns that affect the region; includes the City goals and objectives; and provides policies to guide development and change. Where applicable, chapters and figures of the City's General Plan are referenced throughout this DEIR.

- **City of Brea Municipal Code (Updated 2019):** The City of Brea Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the City's General Plan and proposed development projects. Where applicable, chapters and sections of the City's Municipal Code are referenced and explained throughout this DEIR.

2.5 FINAL EIR CERTIFICATION

This DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City address shown on the title page of this document. Upon completion of the 45-day review period, the City of Brea will review all written comments received and prepare written responses for each. A Final EIR will incorporate the received comments, responses to the comments, and any changes to the DEIR that result from comments. The FEIR will be presented to the Planning Commission for review and recommendation regarding certification, and then to the City Council for potential certification as the environmental document for the project. All persons who comment on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

The DEIR is available to the general public for review at various locations:

- City of Brea – Planning Division, 1 Civic Center Circle, Level 3, Brea, CA 92821
- Brea Library – 1 Civic Center Circle, Level 1, Brea, CA 92821
- City of Brea website: www.cityofbrea.net/projectsinprocess

2.6 MITIGATION MONITORING

Public Resources Code, Section 21081.6, requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code Section 21081 or adopted a Negative Declaration pursuant to Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

The draft Mitigation Monitoring Program for the Brea Mall Mixed Use Project is included as Appendix "O" to this DEIR.

2. Introduction

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3. Project Description

3.1 PROJECT LOCATION

The Brea Mall—1065 Brea Mall, City of Brea—encompasses approximately 74 acres in northeast Orange County. The City of Brea is bordered by the cities of La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills (San Bernardino County) to the northeast; and unincorporated Los Angeles County to the northwest (see Figure 3-1, *Regional Location*).

The Brea Mall is west of State Route 57 (SR-57) and is generally bounded by State College Boulevard to the east, Imperial Highway (State Route 90) to the south, South Randolph Avenue to the west, the City of Brea City Hall and Embassy Suites by Hilton to the northwest, and East Birch Street to the north. Figure 3-1 and Figure 3-2, *Local Vicinity*, show the location of the project area and Brea Mall within the regional and local contexts of Orange County and the City of Brea, respectively. The proposed project involves up to approximately 17.5 acres ("project area") of the Brea Mall property, as shown in Figure 3-2.

3.2 ENVIRONMENTAL SETTING

3.2.1 Project History

The Brea Mall first opened its doors in 1977 with 306,000 square feet of retail space, originally anchored by Sears and May Company California (Orange Coast Magazine 1977). The mall was first developed using the authority of the redevelopment statutes at that time. The mall has been through several expansions since then. Later expansions were approved based on statutory development agreements. Nordstrom was added to the mall between 1977 and 1985.

3.2.1.1 1985 BREA MALL EIR

A Final Environmental Impact Report (FEIR) for the "Brea Mall/Civic Center Area Expansion and Development Project" was certified on February 1, 1985 (1985 Certified EIR). Brea Mall was identified as Planning Area 2 of the 1985 FEIR. The FEIR evaluated expansion of the Brea Mall by 500,000 square feet:

- Two new anchor tenants: 150,000 square feet each (resulting in five anchors total)
- Third floor added to the Nordstrom department store: 40,000 square feet
- Additional small shops: 160,000 square feet
- Third parking structure

The Brea Mall expansion was projected to generate approximately 920 additional employees.

3.2.1.2 1987 BREA MALL DEVELOPMENT AGREEMENT

The mall entered into a development agreement with the City in December 1987 (1987 DA). Although the 1987 DA expired in 2007, it established the full buildout potential of the mall at 1,468,400 square feet of commercial square footage (i.e., 1,766,900 square feet of commercial square footage).

3.2.1.3 2003 GENERAL PLAN EIR

The City of Brea General Plan FEIR was certified in April 2003 (2003 GP EIR) and analyzed the implementation of the City of Brea General Plan update and subsequent amendments to the zoning code that were required to ensure consistency with the general plan. The 1987 DA for the Brea Mall was in effect at the time of the 2003 GP EIR. In the General Plan, the Brea Mall is designated Regional Commercial, which has a maximum floor area ratio (FAR) of 0.65.

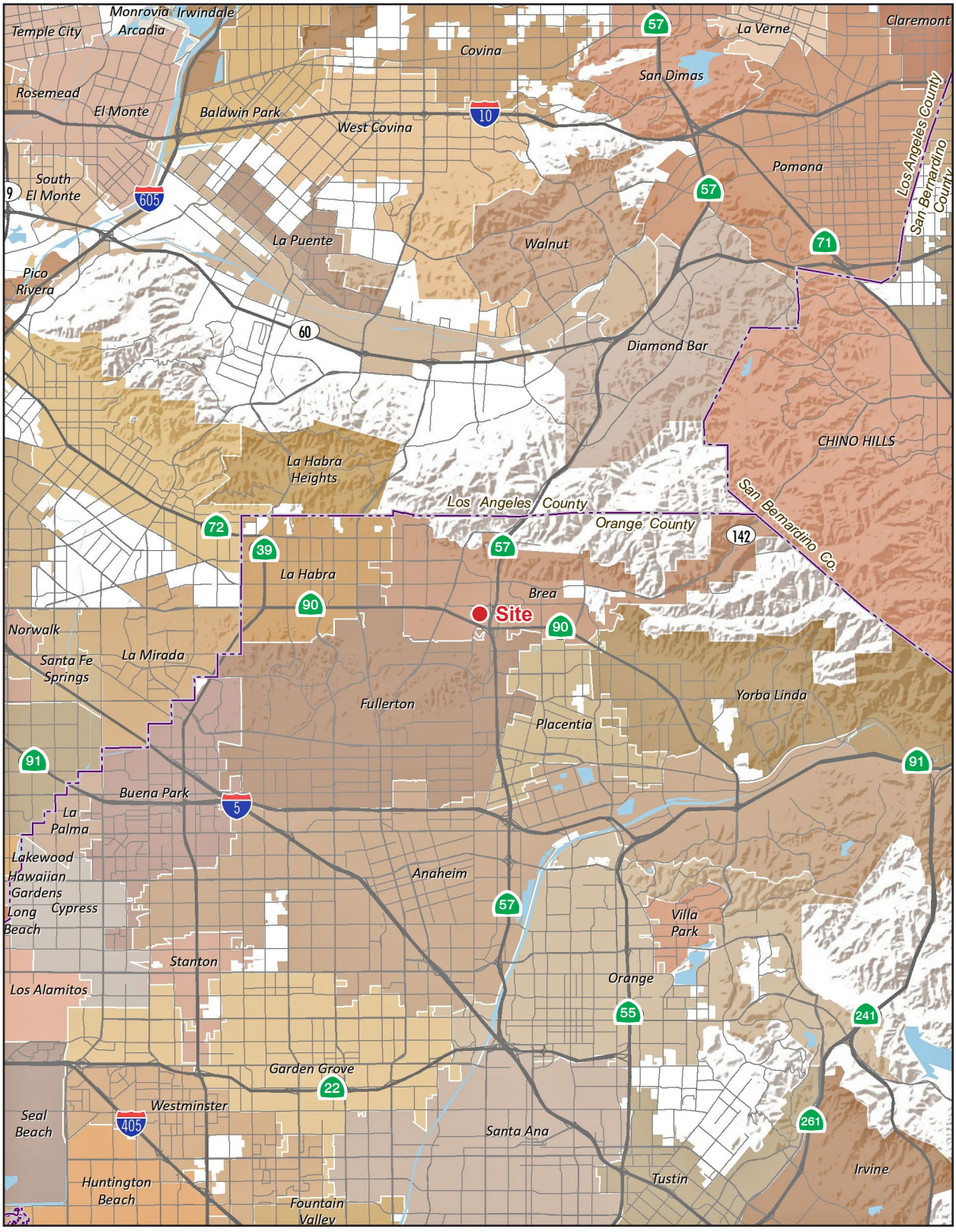
3.2.2 Existing Land Use

An aerial photograph of the Brea Mall is shown on Figure 3-3, *Aerial Photograph*. The mall has 1,291,433 square feet of commercial square footage and a FAR of 0.43. The mall consists of a central retail core with five major department stores as "anchors"—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, & Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures along the Brea Mall Circle (referred to as the "outlot" or "out parcels"), including the Olive Garden, Red Lobster, and The Cheesecake Factory.[1] The mall can be accessed from three of the surrounding streets—State College Boulevard, South Randolph Avenue, and Birch Street. Mall parking is provided on surface spaces and in three parking structures. On January 4, 2018, Sears announced that, as part of a plan to close 103 stores nationwide, it would close its store at the Brea Mall, which was an anchor on the southwest side. Sears closed in April 2018, and the first floor of that building (83,500 square feet) is now leased by another retail store.

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

Figure 3-1 - Regional Location

3. Project Description



Note: Unincorporated county areas are shown in white.

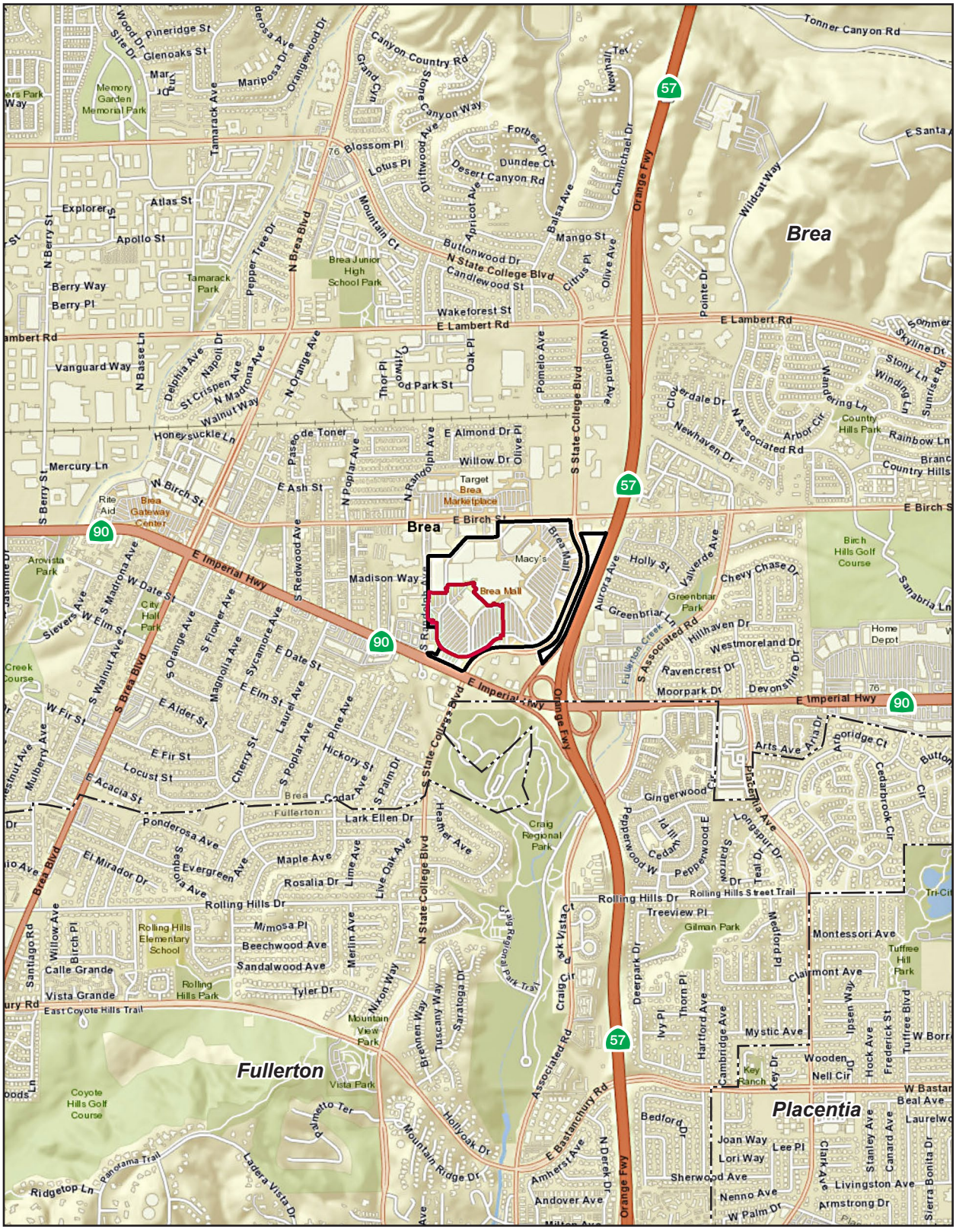
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Source: ESRI, 2020

3. Project Description

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Figure 3-2 - Local Vicinity
3. Project Description

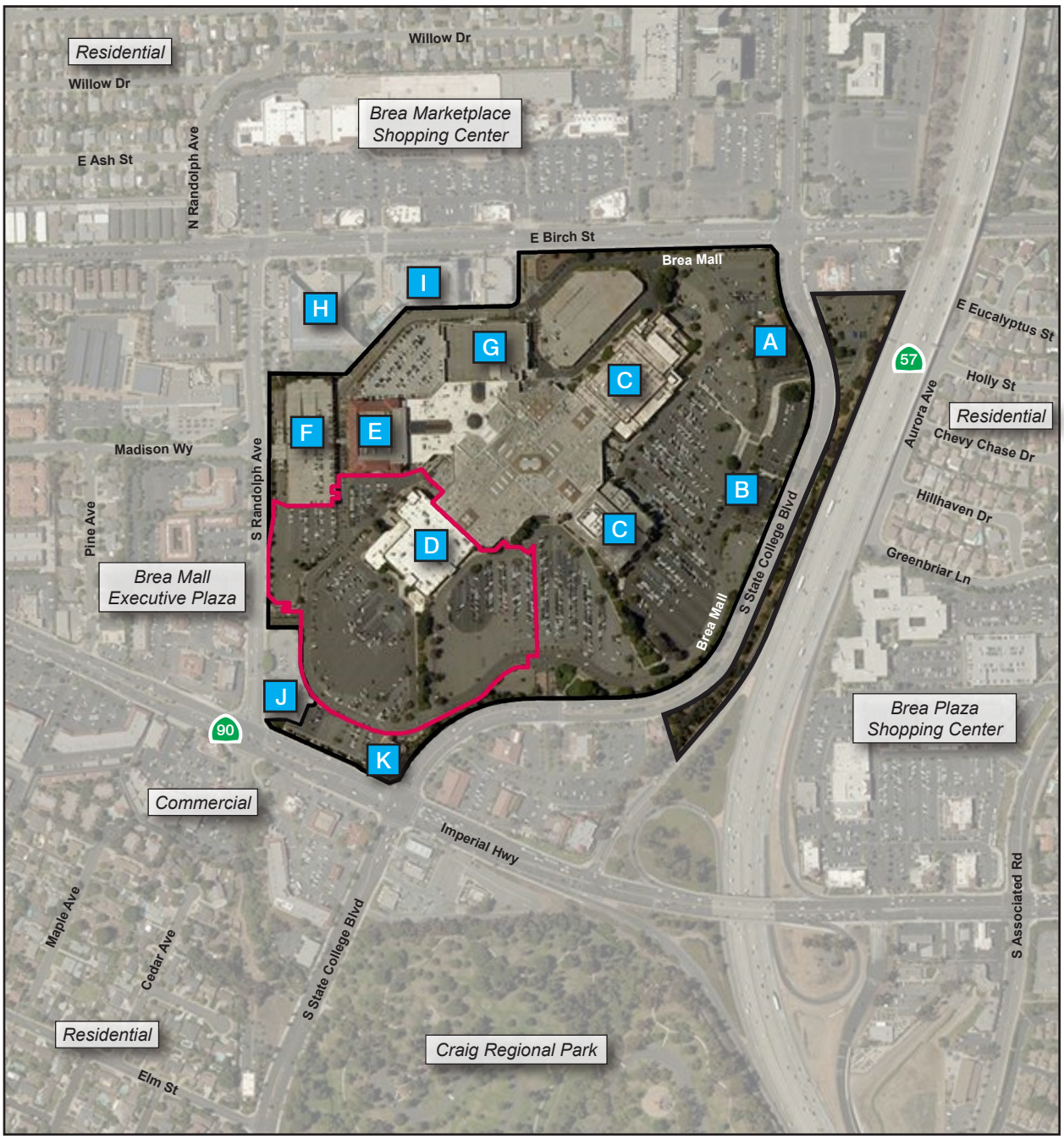


Source: ESRI, 2020

3. Project Description

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Figure 3-3 - Aerial Photograph
3. Project Description



Brea Mall Boundary

Project Area Boundary

A	Olive Garden	F	Nordstrom Parking Structure	K	Cheesecake Factory
B	Red Lobster	G	JC Penney		
C	Macy's	H	Brea Civic Center		
D	Sears	I	Embassy Suites		
E	Nordstrom	J	BJ's Brewhouse		

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Scale (Feet)

Source: ESRI, 2020

3. Project Description

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The Brea Mall is primarily owned by four entities. In addition to Simon Properties, who owns approximately 43 acres of the mall—including the recently acquired 13.2-acre Sears parcel and the area leased to JC Penney. Nordstrom, Macy's Men[2], and Macy's also own 6.83 acres, 12.72 acres, and 11.90 acres of the mall, respectively. Brea Mall ownership is identified in Figure 3-4, *Assessor's Parcel Map*. The Assessor's Parcel Numbers (APNs) for the Brea Mall are shown in Table 3-1, *Brea Mall Assessor's Parcel Numbers*.

Table 3-1 Brea Mall Assessor's Parcel Numbers

APN	Acres	Current Ownership
319-101-26	11.90	Macy's
319-101-37	13.22	Simon Properties (Former Sears Parcel)
319-101-62	2.45	Nordstrom
319-101-63	4.01	Nordstrom
319-101-64	22.20	Simon Properties
319-101-71	1.95	Simon Properties (JC Penney)
319-101-73	2.13	Simon Properties
319-101-75	0.37	Nordstrom
319-101-76	0.02	Simon Properties
319-101-79	0.49	Macy's Mens[1]
319-101-80	12.23	Macy's Mens[1]
319-103-22	2.84	Simon Properties
Total Acreage	**73.81**	

Notes:
[1] Under separate ownership.

3.2.3 Surrounding Land Use

The project area is surrounded by commercial, institutional, and residential uses and is bounded by East Birch Street to the north, State College Boulevard to the east, Imperial Highway to the south, and South Randolph Avenue to the west (see Figure 3-3). To the northwest of the Brea Mall are Embassy Suites by Hilton and the City of Brea Civic Center. Across East Birch Street to the north are the Brea Marketplace Shopping Center and associated parking lot. To the east of State College Boulevard is SR-57, the Brea Plaza Shopping Center, and residences. To the south of the mall and the outlot structures are restaurants and retail, a gas station, and Craig Regional Park, all of which are south of Imperial Highway. To the west of the mall are retail and commercial uses including the Brea Mall Executive Plaza, the Brea Community Center, and United State Postal Service.

[2] Under separate ownership.

3.3 STATEMENT OF OBJECTIVES

Objectives for the Brea Mall Mixed Use Project will aid decision makers in their review of the project and associated environmental impacts:

1. Revitalize the Sears parcel following closure of the Sears anchor with commercial uses and higher quality amenities to reinforce the Class "A" position of Brea Mall by developing housing, retail, fitness, and open space areas proximate to Brea Downtown and other commercial and retail uses; thereby, putting it on-par with the top tier of newer high quality mixed-use environments in the broader Los Angeles and Orange County markets.

2. Redevelop the Sears parcel and surface parking lot to create an outdoor village setting with more pedestrian-oriented amenities by creating a mix of uses, including housing, retail, fitness, and open space areas.

3. Invigorate the project area with the spirit and intent of the City's General Plan vision by developing a mix of uses that would, because of their respective peak hours, not concentrate traffic and parking at the same time.

4. Provide additional opportunities for residential growth on infill and underutilized parcels near the Brea Transit Center.

5. Improve the jobs-housing balance in the City of Brea and provide new housing within close proximity to jobs and services.

6. Promote healthy living and physical activity by providing open space areas and opportunities to utilize alternative transportation options available proximate to the site, including the Brea Mall Transit Center and bike/pedestrian trails.

3.4 PROJECT CHARACTERISTICS

"Project," as defined by the CEQA Guidelines, means:

> ... the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)…enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100–65700. (14 Cal. Code of Reg. § 15378[a]).

The CEQA Guidelines further explain that a project refers to the activity that is being approved and may be subject to several discretionary approvals by government agencies (Section 15378[c]).

Figure 3-4 - Assessor Parcel Map
3. Project Description



3. Project Description

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3.4.1 Description of the Project

As a result of the recent acquisition of the Sears parcel, the Simon Property Group (Simon Properties, or Applicant) is proposing redevelopment of that parcel and adjoining transition areas adjacent to Nordstrom and Macy's at the Brea Mall. The proposed redevelopment would be on an approximately 17.5-acre site ("project area") in the southwest portion of the Brea Mall.

The proposed project involves demolishing the Sears department store and associated auto center (161,990 square feet) and 12 acres of surface parking in order to allow a mix of uses—including retail, for-rent residential apartments, a resort-type (lifestyle) fitness center, and a gathering space (large "central green" and plaza). Figure 3-5, *Conceptual Site Plan,* shows the overall conceptual site plan, including both the residential and retail components. Table 3-2, *Brea Mall Mixed Use Project Land Use Summary*, identifies the existing and proposed improvements. The proposed project would result in a net increase of 149,625 square feet of commercial square footage, for a total of 1,441,058 square feet of commercial square feet, and 312 residential units.

Table 3-2 Brea Mall Mixed Use Project Land Use Summary

Tenant	Existing Commercial Square Feet	Demolition Commercial Square Feet	New Construction Commercial Square Feet	Total Brea Mall Commercial Square Feet
Major Department Stores				
Sears	161,990	-161,990	—	0
Macy's[1]	182,360	—	—	182,360
Nordstrom	176,540	—	—	176,540
JC Penney	135,800	—	—	135,800
Macy's Men[2] & Home	192,060	—	—	192,060
Major Department Stores	**848,750**	**-161,990**	**0**	**686,760**
Other Commercial				
Sporting Goods	—	—	50,019	50,019
Lifestyle Fitness Center	—	—	128,000	128,000
Level 1 Mall	224,522	—	123,053	347,575
Level 2 Mall	207,992	—	10,543	218,535
Total Other Commercial	**432,514**	**0**	**311,615**	**744,129**
Outlots[1]				
Cheesecake Factory Outlot	10,169	—	—	10,169
Total Mall	**1,291,433**	**-161,990**	**311,615**	**1,441,058**
Mixed Use Residential				
Medium Density Residential (7-story)	—	—	312 units	312 units
Residential Square Feet[3]	—	—	382,994	
Net Change from Existing	**—**	**—**	**312 units**	**149,625**

[1] Macy's owns the buildings occupied by Red Lobster and Olive Garden; therefore, the commercial square footage for Macy's includes these restaurants. BJ's is not owned by Simon Properties or the other retail anchors; therefore, the square footage for this outlot facility is not included in this table.
[2] Under separate ownership
[3] The residential building square footage is based on the gross square footage under the California Building Code.

3.4.1.1 RESIDENTIAL MIXED-USE BUILDING

The residential component of the proposed project would be developed south of the Nordstrom's parking structure. The 382,994-square-foot residential building would be seven-stories, or 60 feet and 6 inches to the top of the seventh story. The highest point of the building would be 89 feet and 8 inches to the top of the roof. Table 3-3, *Residential Building Summary*, provides a breakdown of the unit type for the proposed mixed-use residential development.

Table 3-3 Residential Building A Summary

Type of Unit	Number of Dwelling Units
Studio Units	35
One-Bedroom Units	162
Two-Bedroom Units	115
Total Units	312
Residential Square Feet[1]	**382,994**

[1] The residential building square footage is based on the gross square footage under the California Building Code.

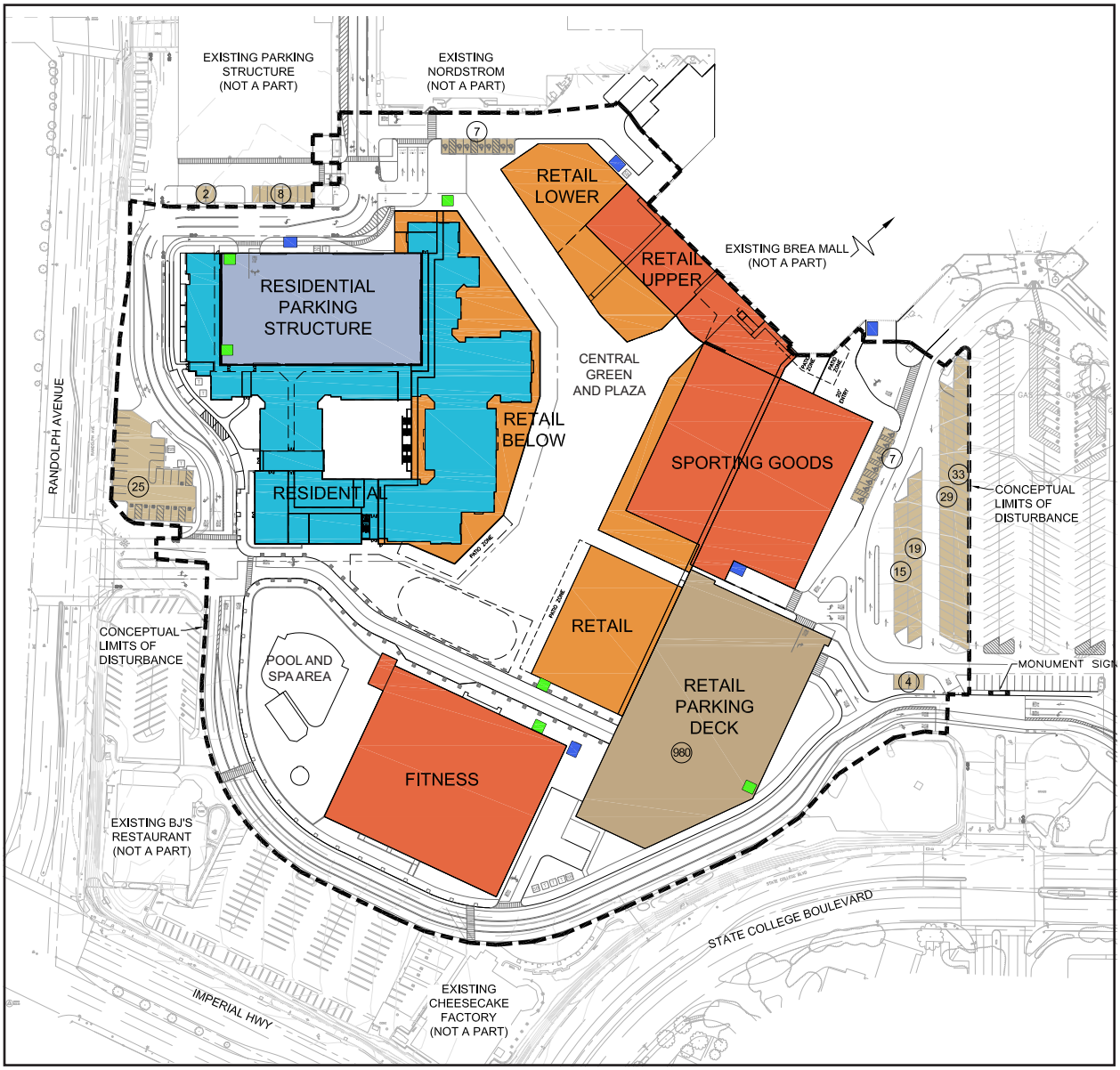
The proposed residential component of the project would include a variety of indoor and outdoor amenities. Within the 382,994-square-foot residential building, a total of 14,605 square feet of indoor amenities would be provided, including the leasing office, fitness center, mail room, and clubhouse. In addition, a total of 33,521 square feet of outdoor amenities would be provided, including terraces, an outdoor lounge, courtyard, roof deck, and amenity deck. Figure 3-6, *Conceptual Residential Building Site Plan,* shows the conceptual site plan for the proposed residential building. As shown in Figure 3-6, some of the residential use would be located above the ground-floor level retail.

3.4.1.2 MALL BUILDINGS AND CENTRAL GREEN AND PLAZA

Figure 3-7, *Conceptual Mall Buildings Site Plan,* shows the site plan for the main retail component and central green. The retail component of the proposed project would be two levels centered around the central green and plaza. The entry section would be approximately 45 feet and 6 inches to the top of the canopy and 33 feet to the top of the second-floor storefront. The lower level retail would be 23 feet and 6 inches to the top of the parapet and 22 feet to the top of the roof, and the upper level retail would be 38 feet and 6 inches to the top of the parapet and 36 feet to the top of the roof. The sporting goods store would be on the second level of the mall and would be 50,019 square feet. The highest point of the sporting goods store would be 44 feet and 6 inches. The retail stores would be on the ground floor and second floor of the mall and would encompass 133,596 square feet (123,053 square feet on level one and 10,543 square feet on level two).

To create a village feel in the mixed-use development, the project would include an approximately 1.5-acre central green that would be used as an open common area. The central green would include play areas for children, areas for seasonal outdoor sales, seating, and landscaping. The central green would be privately maintained and managed but open to the public. The project also includes a 0.3-acre plaza that would be used as open space for gatherings. The open space areas onsite could host annual events or an ice rink. See Figure 3-8, *Central Green and Plaza,* which shows the conceptual layout of the central green and plaza area.

Figure 3-5 - Conceptual Site Plan
3. Project Description



Project Area Boundary

(#) Number of Parking Spaces

Trash Staging Areas
- Retail: (4) Locations
- Residential: (1) Location
  (Note: Residential Collection Rooms within Residential Garage)

Bicycle Racks/Locker Areas
- Retail: Locations for 57 Biles Including within Retail Parking Garage
- Residential: Locations for 70 Bikes within Residential Garage

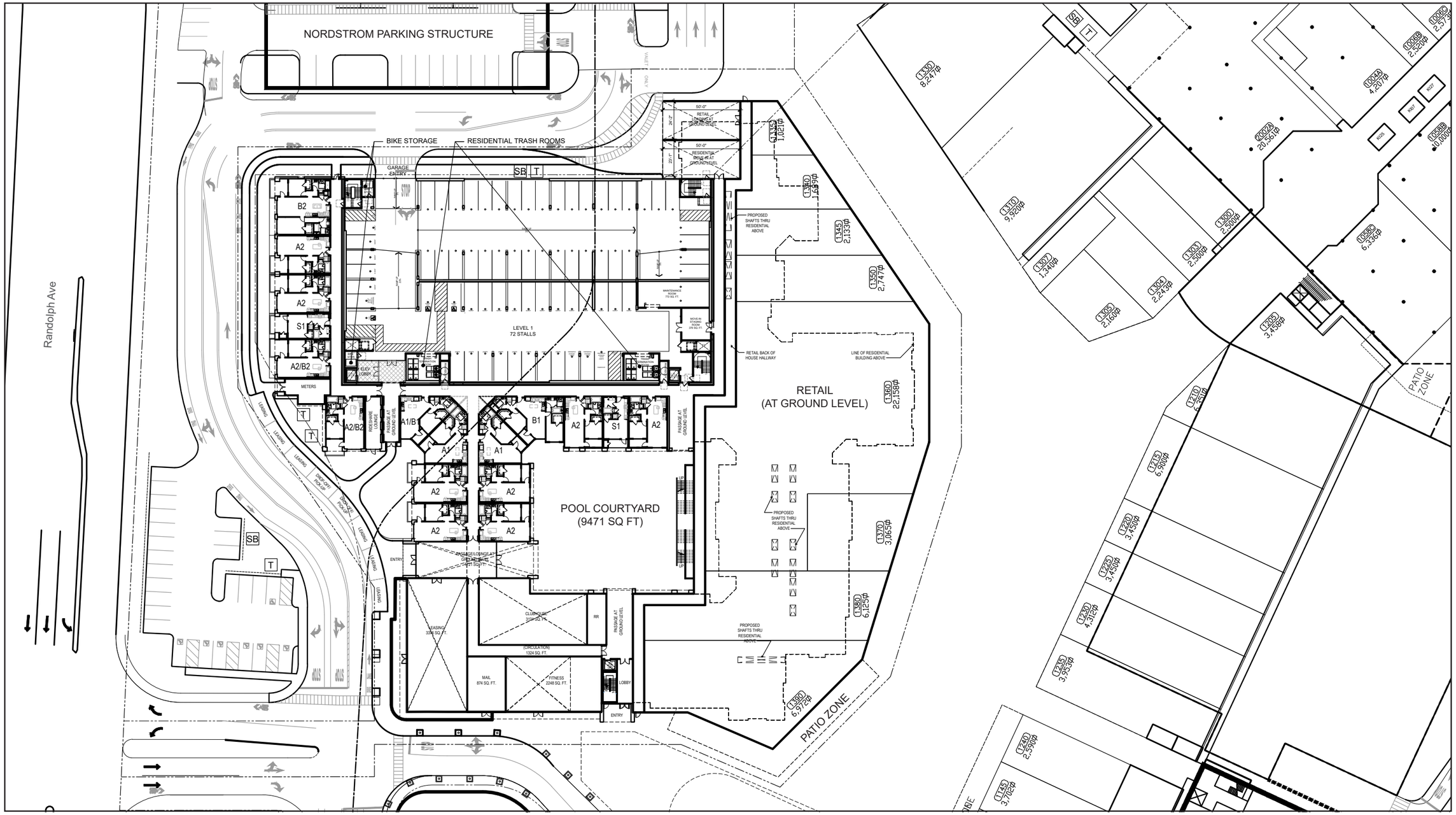
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Source: AO, 2019

3. Project Description

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Figure 3-6 - Conceptual Residential Building Site Plan



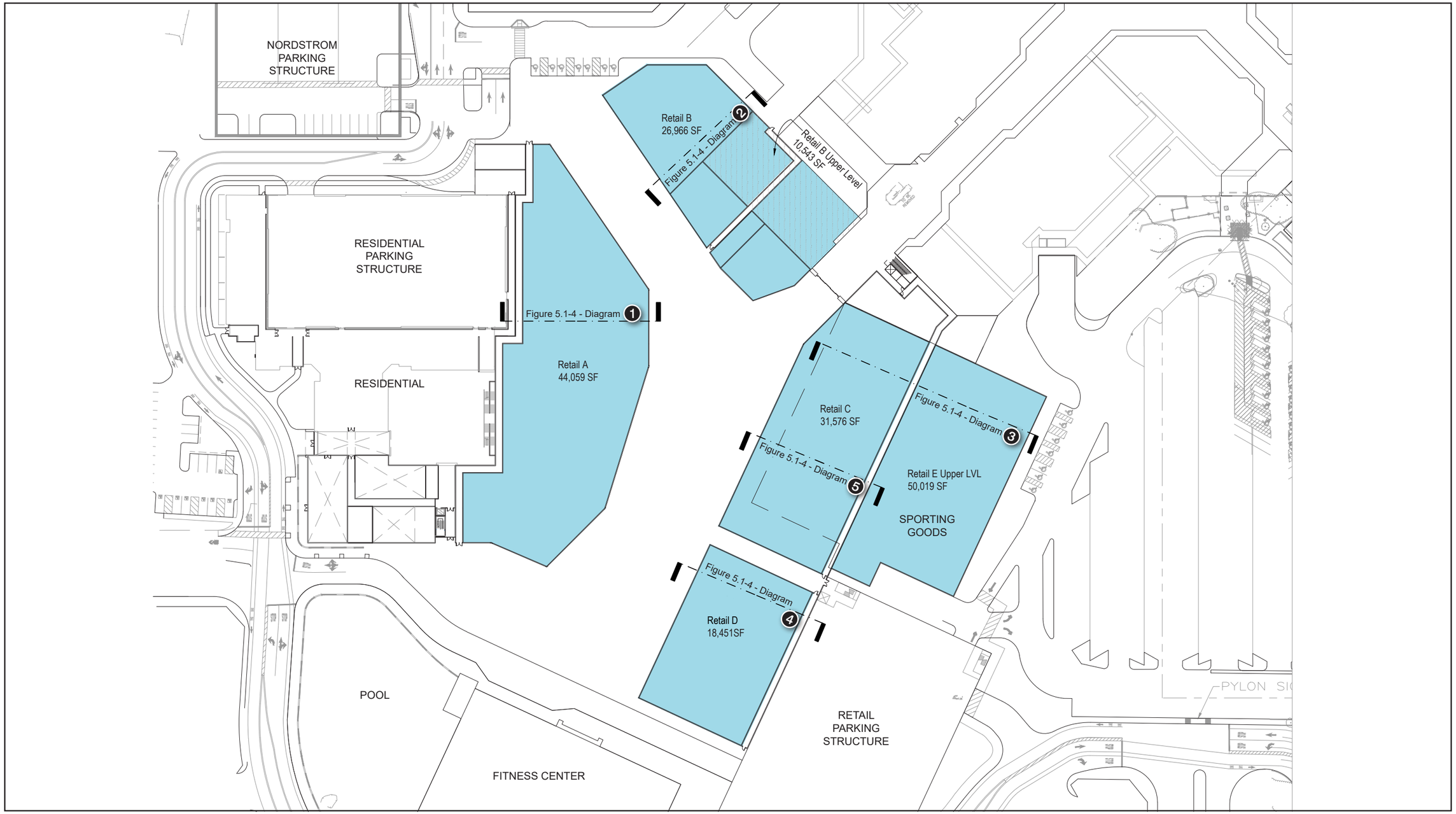
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Scale (Feet)

Source: Architects Orange, 2019

3. Project Description

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Figure 3-7 - Conceptual Mall Buildings Site Plan



Note: Refer to corresponding cross-section diagrams in Chapter 5.1 Aesthetics.

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Scale (Feet)

Source: 505 Design, 2019

3. Project Description

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Figure 3-8 - Central Green and Plaza



Source: 505 Design, 2019

3. Project Description

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3.4.1.3 LIFESTYLE FITNESS CENTER

The resort-type fitness center would be south of the central green and plaza. The 128,000 square foot fitness center would be three-stories and include a 32,128 square foot pool and spa. The three-story fitness center would be 61 feet tall at the peak of the entry parapet. The fitness center would also have a basement for mechanical equipment.

3.4.1.4 SITE ACCESS

Vehicles would access to the Brea Mall and outlot structures from the existing driveways:

- South College Boulevard
  - The Brea Mall South and State College Boulevard intersection is a four-way, signalized intersection.
  - The Brea Mall Center and State College Boulevard intersection is a three-way, signalized intersection.
  - The Brea Mall North and State College Boulevard intersection is a four-way, signalized intersection.
- East Birch Street
  - The Brea Mall and East Birch Street intersection is a four-way, signalized intersection.
- South Randolph Avenue
  - The Madison Way and South Randolph Avenue intersection is a four-way, signalized intersection.
  - The Brea Mall and South Randolph Avenue intersection is a four-way, signalized intersection.

East Birch Street is striped with bike lanes to the east of the East Birch Street and Brea Mall intersection. There is no on-street parking allowed on State College Boulevard, South Randolph Avenue, or East Birch Street. The project would construct an internal bike lane along the mall ring road with off-site bike and pedestrian connections to the plaza.

3.4.1.5 PARKING

Removal of up to 12 net acres of surface parking would necessitate the creation of new parking spaces onsite.

- **Retail Parking Structure and Retail Surface Parking:** The mall would collect new retail parking spaces in a retail parking structure and surface parking. The proposed project would provide 149 surface spacing spaces on 2.98-acres of the project area. The retail parking structure would be up to six stories tall above grade and would have one below grade level and would provide a total of 990 parking spaces. The retail parking structure would be 68 feet in height. After the construction of the proposed project, there would be a total of 6,160 retail parking spaces at the Brea Mall. Guests and employees of the commercial space and lifestyle fitness center would have unrestricted, unreserved access to the surface parking lots and retail parking structure.

- **Residential Parking Structure.** The residential uses would also be supported by a new, dedicated six-level above grade parking structure. There would be a total of 538 spaces in the residential parking structure.

Table 3-4, *Brea Mall Surface and Structure Parking,* identifies the number of spaces, surface lot acreage, and structure square footage for the existing conditions. There would be a net increase of 323 parking spaces and 519,619 square feet of structure parking, and a net decrease of 9.02 acres of surface lot parking. However, 539 spaces would be reserved for the residences. As a result, retail parking would decrease by 216 spaces. The mall also has a shared-parking program with the City, which allows up to 70 parking spaces in the City's parking structure, northwest of the mall. Additionally, carpool/vanpool parking would be located interior to the proposed mall parking structure.

Table 3-4 Brea Mall Surface and Structure Parking

Type of Parking	Spaces	Surface Lot Acreage	Structure Square Footage
Existing Brea Mall	6,376	26.64	760,832
Demolition	-1,345	12.00	0
New			
Brea Mall	1,139[1]	2.98	311,459
Residential-Only	539	0	208,160
Total	1,678	2.98	519,619
Total			
Brea Mall	6,160	17.62	1,072,291
Residential-Only	539	0	208,160
Total	**6,699**	**17.62**	**1,280,451**

[1] 149 surface spaces and 990 structure parking spaces.

Bicycle Storage

Residential bicycle storage would be within the residential parking structure, which would be able to accommodate 34 bicycles (30 bicycle lockers and 4 bike storage racks). Retail bicycle storage would be in the outdoor common area and the retail parking garage. The project would provide up to 57 retail bicycle racks.

3.4.1.6 OPERATIONS

The Brea Mall is currently open seven days a week—Monday through Saturday from 10 AM to 9 PM and Sunday from 11 AM to 7 PM. During the holiday season, the mall operates on special extended hours. The proposed project would not result in changes to the mall hours. The new lifestyle fitness center would operate Monday through Sunday from 4 AM to 12 AM.

3.4.1.7 LANDSCAPING

The perimeter of the site would be treated with both hardscape and landscape features. Figure 3-9, *Conceptual Landscape Plan*, shows the proposed landscape plan and types of trees, shrubs, accents, and groundcover. The project area would include trellises, seating, sculptures, interactive spray ground, landscaped islands with canopy trees, and a pavilion. Landscaping and irrigation plans would comply with the provisions of the City's water efficiency landscape ordinance (No. 1134). The proposed project would have 40,318 square feet of landscaped area. The proposed residential building would include 19,211 square feet of private open space and 25,712 square feet of common open space. Figures 3-10, *Central Green Landscape Plan,* 3-11, *Fitness Center and Plaza Landscape Plan*, 3-12, *Surface Parking Lot Landscape Plan,* and 3-13, *Residential Building Landscape Plan,* show the proposed landscape plan and types of trees, shrubs, accents, and groundcover in the central green, fitness center and plaza, surface parking lot, and residential building areas, respectively.

3.4.1.8 INFRASTRUCTURE

The project area currently operates as a mall and has existing infrastructure and utilities systems. Additional connections would be required to accommodate the project.

Water

The City of Brea Water Department provides potable water service for the project area. New potable water lines would be extended to connect with the City's existing public water mains in order to accommodate the proposed project. Potable water infrastructure improvements would include trenching and exposing existing lines for connections, trenching and installing new lines, and break-in connections to existing main lines. The new water lines onsite would be maintained by the Brea Water Department.

As required by the City of Brea Fire Department, fire hydrants would be installed at key locations of the site to meet the hose-pull requirements and provide adequate fire access to the proposed project.

Wastewater

Wastewater is collected via a series of sewer lines onsite and is fed to a connection point in the City's existing sewer line. The City's wastewater collection system conveys untreated wastewater to Orange County Sanitation District's trunk sewer system. Sewer flows ultimately reach the District's Wastewater Treatment Plant #1 in Fountain Valley. Wastewater infrastructure improvements would include trenching and exposing existing lines for connections, trenching and installing new lines, and break-in connections to existing main lines. All proposed sanitary sewer would discharge to the sewer main on State College Boulevard.

Drainage

The proposed project would include installation of two new systems for water quality and treatment, and hydromodification to ensure the proposed storm drain system is designed to accommodate 100-year peak flows discharging from the project. A portion of runoff would be treated from the existing parking lot in lieu of the disturbed area, and the remainder of the existing parking lot runoff would be captured via a proposed valley gutter that would drain to a new inlet and bypass the proposed chamber system. Additionally, there

would be a curb cut provided in the southeastern portion of the proposed eastern parking lot to maintain existing drainage patterns and convey stormwater runoff to the ring road (see Appendix L). Structural BMPs, including providing storm drainage system stenciling and signage and using efficient irrigation systems would be provided to treat stormwater (see Appendix M).

Utilities and Service Systems

Utilities and service systems at the site include electricity (Southern California Edison), natural gas (Southern California Gas Company), telecommunications facilities (telephone, cable, and data), and solid waste (Republic Services). Additional utility infrastructure and the relocation of existing utility infrastructure would be required to accommodate the proposed expansion.

3.4.2 Project Phasing

The Brea Mall Mixed Use Project would disturb up to a maximum of 17.5 acres ("project area") of the 74-acre Brea Mall site. Project construction would be phased over an approximately 25-month period, anticipated to commence in summer 2020 and ending in summer 2022, as shown in Table 3-5, *Construction Phasing*. Construction equipment would include, but is not limited to, scrapers and graders for grading, excavators for utility installation, backhoes for foundation excavation, cranes and saws for construction of vertical buildings, paving machines, and plaster guns for interior and exterior coating.

Table 3-5 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
Demolition	Demolition of Sears and offsite haul	July 2020 – Nov 2020 5 months	2 – Cat 450 Excavators 1 – CAT 980 loader* 1 – Mobile Track crusher (Extec)[1] Building Demolition – 1,600 Tons
	Demolition of Asphalt and haul offsite	Aug 2020 – Sept 2020 6 wks (1 week for haul-out)	1 – CAT 980 loader 2 – Dump Trucks Asphalt Demolition – 20 Tons
Site Preparation	Sitework (grading, retaining walls)	Sept 2020 – Feb 2020 6 months	8 – Cat 623E Scrapers 4 – CAT 14 Grader 1 – Skip Loader 38,320 Cubic Yards Soil Export
	Utility relocation	July 2020 – May 2021 9 months	1 – John Deere 85-135
Building Construction	Building foundation and vertical building construction – Mall Podium Parking	Oct 2020 – Sept 2021 11.5 months	1 – Cat 420 loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Gradall Xtreme XRM1245 1 – Clark C30 Forklift 1 – Cat 980 Loader
	Building foundation and vertical building construction – Mall Shops	Dec 2020 – June 2022 19 months	1 – Case 580 Loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Terex T340 1 Crane

Table 3-5 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
	Building foundation and vertical building construction – Residential Podium (Parking and Retail)	Feb 2021 – Aug 2021 7 months	1 – Case 580 Loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Small Tower Crane (electric)
	Building foundation and vertical building construction – Residential	Feb 2021 – Jan 2022 10.5 months	1 – Case 580 Loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Terex T340-1 Crane
	Building foundation and vertical building construction – Sporting Goods	Mar 2021 – Jan 2022 10.5 Months	1 – Case 580 Loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Crane Terex T340-1
	Building foundation and vertical building construction – Fitness Center	May 2021 – Aug 2022 15 Months	1 – Case 580 Loader 1 – Husqvarna Soff-Cut Saw 4200 1 – Terex T340-1 Crane
Landscaping	Landscape and Hardscape Installation	Dec 2021 – Jan 2021 4 weeks	1- CAT 14 Grader
Paving	Paving of 192,000 square feet of asphalt	Jan 2022 1 week	1 – Paving Machine (Blaw-Knox) 1 – Roller (Ingersol) 1 – Skip Loader
Architectural Coatings	Retail interior and exterior coatings	July 2021-Sept 2021 2.5 months	2 – Plaster Guns
	Residential interior and exterior coatings	Oct 2021-Jan 2022 2.5 months	2 – Plaster Guns

Notes: Construction duration and equipment provided by the Applicant.
[1] Additional equipment needed if recycling/crushing were to occur onsite. This equipment would be used for 15 days during the demolition period.

3.4.3 Lot Line Adjustment

As shown in Figure 3-14, *Lot Line Adjustment*, and Table 3-6, *Lot Line Adjustment*, the project includes a lot line adjustment to the former Sears parcel to accommodate the proposed residential component of the project. The lot line adjustment would isolate the residential portion of the project area, which is on 3.91 acres. The proposed lot line adjustment would result in a 0.37-acre reduction to the Nordstrom parcel, because the lot line adjustment for the residential parcel would include portions of the surface parking lot on the Nordstrom parcel.

Table 3-6 Lot Line Adjustment

Parcel Designation	Existing Parcel	Proposed Parcel	Change	Proposed Land Use Designation
Brea Mall Parcel	24.17 Acres	35.00 Acres	+10.83 Acres	Mixed Use I (MU-I)
Proposed Residential Parcel (Former Sears Parcel)	14.37 Acres	3.91 Acres	-10.46 Acres	Mixed Use I (MU-I)
Nordstrom Parcel	6.87 Acres	6.50 Acres	-0.37 Acres	No Change
Total	**45.41 Acres**	**45.41 Acres**	**NA**	**NA**

3.4.4 Existing Zoning and General Plan

The City of Brea General Plan Land Use designation for the site is Regional Commercial with a FAR of 0.65. The Brea Mall is zoned C-C Major Shopping Center Zone, with a P-D Precise Development overlay. The C-C designation provides for the development of large, modern shopping center facilities to serve the community. Retail and restaurant uses are permitted by right in this zone. The proposed project would require a General Plan Amendment and zone change to Mixed Use I for the 3.91-acre residential parcel and the 35.00-acre Brea Mall Parcel that is affected as a result of development of the proposed project, as shown in Table 3-6. The result would be two Mixed Use I (MU-I) parcels, totaling 38.91 acres. The goal of the Mixed Use I zone is to encourage limited vehicle trips by emphasizing pedestrian-related amenities in a horizontal and vertical integration of uses.

3.5 INTENDED USES OF THE EIR

This Draft EIR is a project DEIR that examines the environmental impacts of the proposed project. This DEIR also addresses various actions by the City and others to adopt and implement the proposed project. It is the intent of this DEIR to evaluate the environmental impacts of the proposed project, thereby enabling the City of Brea, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. The anticipated approvals required for this project are shown in Table 3-7, *Lead and Responsible Agencies*.

Table 3-7 Lead and Responsible Agencies

Lead Agency	Action
City of Brea	Approval of a General Plan Amendment Approval of Zone Change Precise Development Review A Conditional Use Permit for the Health Fitness Center A Conditional Use Permit to Serve Alcohol Amendment/New Sign Program Approval of a Lot Line Adjustment A Conditional Use Permit for Modifications to the Parking Standards of the Zoning Code Approval of Building Plan Check Approval of Building and Grading Permits Approval of a Development Agreement Approval of Building Plan Check for Site Plan and Emergency Access Approval of Fire Master Plan
Responsible Agencies	**Action**
South Coast Air Quality Management District	SCAQMD Rule 403 (Large Operation Notification Form): The applicant/applicant's construction contractor is required to file a Large Operation Notification Form with SCAQMD for grading activities and prepare and implement a dust control plan.
Santa Ana Regional Water Quality Control Board	Issuance of National Pollution Discharge Elimination System (NPDES) Permit Issuance of Construction Permit

3.5.1 References

Brea, City of. 1995, February 1. Final Environmental Impact Report for the Brea Mall/Civic Center Area Expansion and Development Project.

_____. 2003, April. City of Brea General Plan Final Environmental Impact Report.

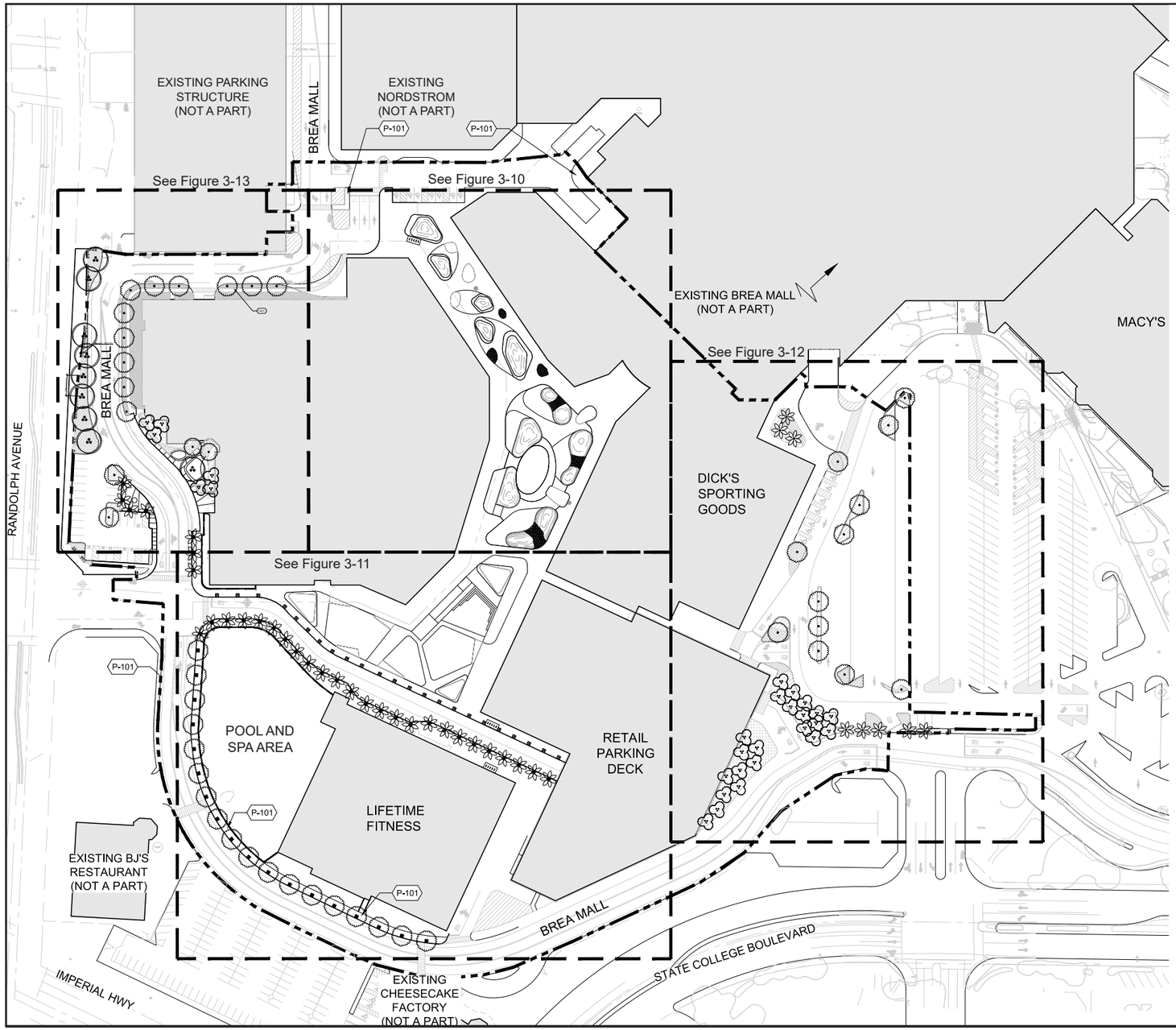
Orange Coast Magazine. September 1977. Volume 3, Number 9. "Brea Mall Whoops It Up For Grand Opening!"

3. Project Description

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Figure 3-9 - Conceptual Landscape Plan

3. Project Description



PLANT SCHEDULE OVERALL

TREES	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	22	Archontophoenix cunninghamiana / Multi-Trunk King Palm	60" BOX	20` - 25` VARYING HTS
	13	Phoenix dactylifera / Date Palm 'Medjool'	60" BOX	20` MIN CLEAR TRUNK
	10	Platanus racemosa / California Sycamore Multi-Trunk	60" BOX	25` HT
	27	Ulmus parvifolia / Chinese Elm	60" BOX	25` MIN. HT

SHRUB AREAS	QTY	BOTANICAL / COMMON NAME	CONT
	7,518 sf	Carex divulsa / Berkeley Sedge	1 GAL
	5,709 sf	Muhlenbergia rigens / Deer Grass	1 GAL
	8,481 sf	Stipa ichu / Peruvian Feather Grass	1 GAL

GROUND COVERS	QTY	BOTANICAL / COMMON NAMECONT	SPACING
	3,152 sf	Buchloe dactyloides `UC Verde` / UC Verde Buffalo Grass	flat

REFERENCE NOTES

SYMBOL	DESCRIPTION
P-101	PEDESTRIAN CONCRETE

SYMBOL	DESCRIPTION
S-104	TREE GRATE

0 150
Scale (Feet)

Source: Land Design, 2019

3. Project Description

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Figure 3-10 - Central Green Landscape Plan

3. Project Description



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	12	Platanus racemosa / California Sycamore Multi-Trunk	60" BOX	25` HT
	9	Tabebuia rosea / Rosy Trumpet Tree	60" BOX	25` HT MIN. FULL
	2	Ulmus parvifolia / Chinese Elm	60" BOX	25` MIN. HT

SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	7	Agave x `Blue Flame` / Blue Flame Agave	15 GAL	
	5	Allium x `Gladiator` / Giant Allium	1 GAL	
	2,184	Carex divulsa / Berkeley Sedge	1 GAL	
	146	Heuchera x `Lime Marmalade` / Chartreuse Coral Bells	1 GAL	
	34	Nassella tenuissima / Texas Needle Grass	1 GAL	

SHRUB AREAS	QTY	BOTANICAL / COMMON NAME	CONT
	1,363 sf	Stipa ichu / Peruvian Feather Grass	1 GAL

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT
	388 sf	Buchloe dactyloides `UC Verde` / UC Verde Buffalo Grass	flat

TOTAL LANDSCAPE AREA: 10,115 SF (THIS SHEET)

Project Area Boundary

0 50
Scale (Feet)

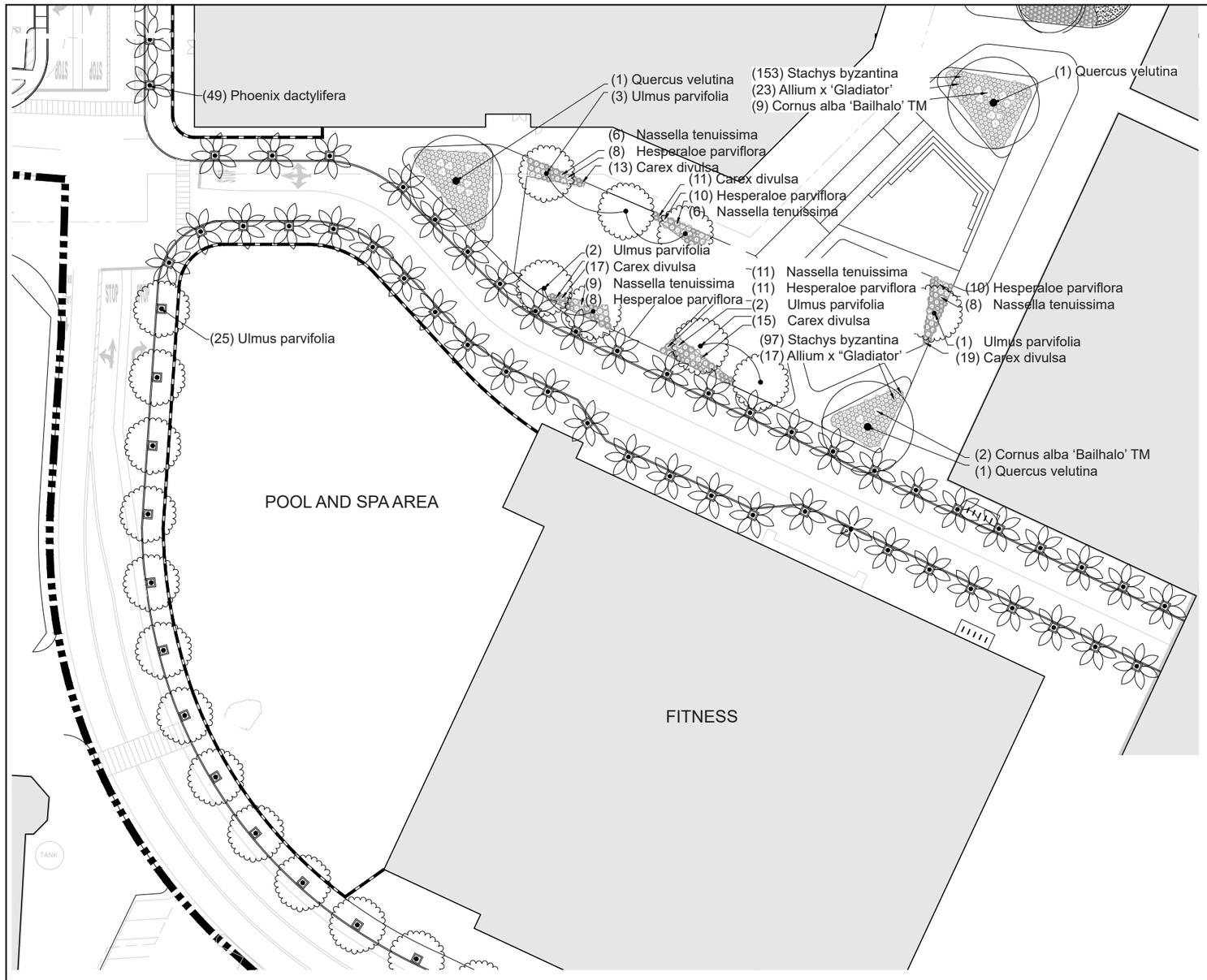
Source: LandDesign, 2019

3. Project Description

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Figure 3-11 - Fitness Center and Plaza Landscape Plan

3. Project Description



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	50	Phoenix dactylifera / Date Palm 'Medjool'	60" BOX	20` MIN CLEAR TRUNK
	3	Quercus velutina / Black Oak	60" BOX	35` HT x 25` WIDTH
	26	Ulmus parvifolia / Chinese Elm	60" BOX	25` MIN. HT

SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT
	54	Allium x `Gladiator` / Giant Allium	1 GAL
	76	Carex divulsa / Berkeley Sedge	1 GAL
	18	Cornus alba `Bailhalo` TM / Ivory Halo Dogwood	1 GAL
	47	Hesperaloe parviflora / Red Yucca	1 GAL
	40	Nassella tenuissima / Texas Needle Grass	1 GAL
	421	Stachys byzantina / Lamb`s Ear	1 GAL

SHRUB AREAS	QTY	BOTANICAL / COMMON NAME	CONT
	1,962 sf	Stipa ichu / Peruvian Feather Grass	1 GAL

Project Area Boundary

TOTAL LANDSCAPE AREA: 2,620 SF (THIS SHEET)
MINIMUM LANDSCAPE AVERAGE 15% NET SITE AREA.

NOTE: LANDSCAPE AND IRRIGATION PLANS TO COMPLY WITH PROVISIONS OF THE CITY'S WATER EFFICIENCY LANDSCAPE ORDINANCE NO. 1134. SPECIAL CARE SHALL ALSO BE TAKEN IN ITS PLACEMENT TO PREVENT FUTURE PROPERTY DAMAGE (I.E. ROOTS UPLIFTING THE FOUNDATION).

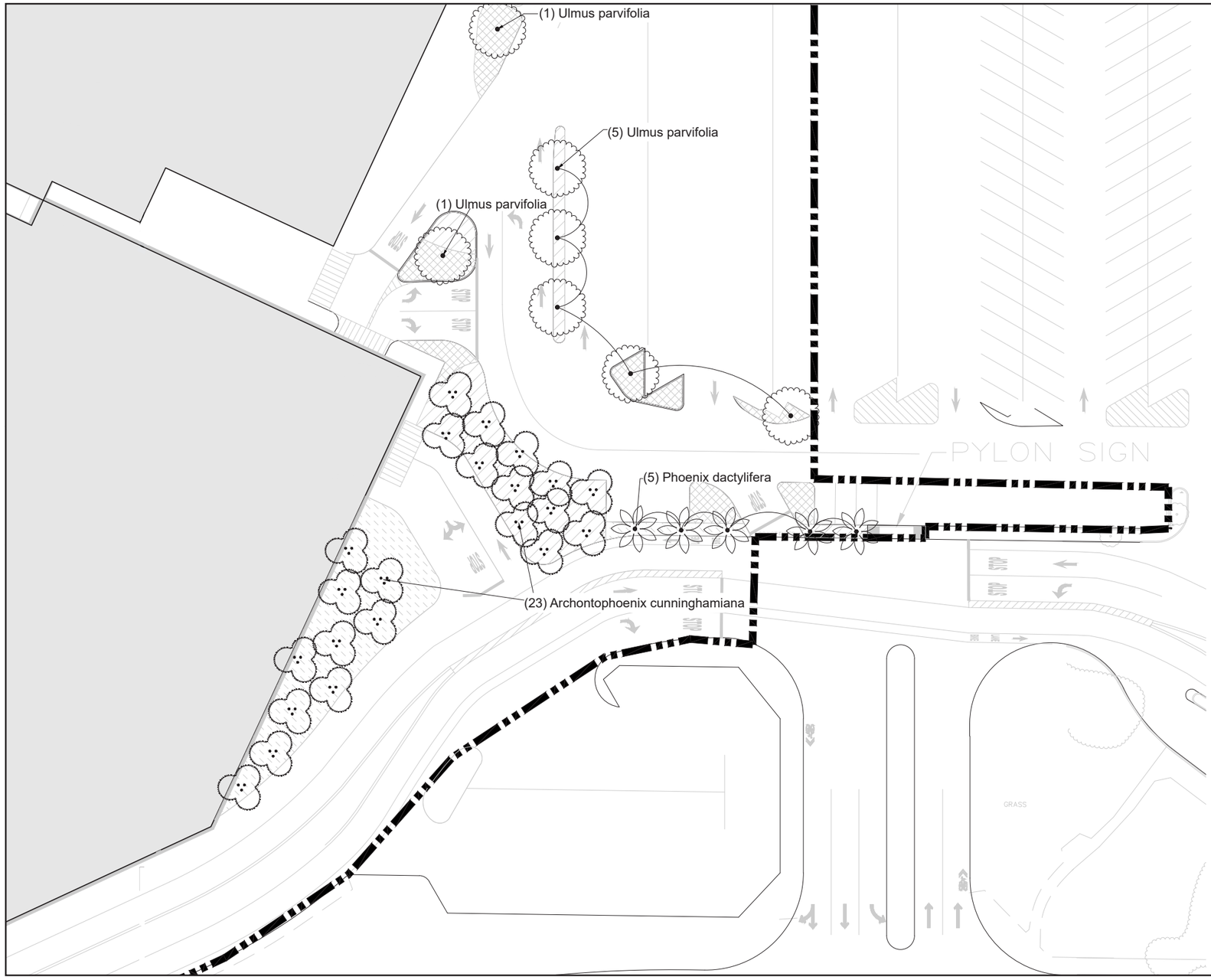
0 55
Scale (Feet)

Source: LandDesign, 2019

3. Project Description

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Figure 3-12 - Surface Parking Lot Landscape Plan



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	22	Archontophoenix cunninghamiana / Multi-Trunk King Palm	60" BOX	20` - 25` VARYING HTS
	8	Phoenix dactylifera / Date Palm 'Medjool'	60" BOX	20` MIN CLEAR TRUNK
	12	Ulmus parvifolia / Chinese Elm	60" BOX	25` MIN. HT

SHRUB AREAS	QTY	BOTANICAL / COMMON NAME	CONT
	2,553 sf	Carex divulsa / Berkeley Sedge	1 GAL
	4,426 sf	Muhlenbergia rigens / Deer Grass	1 GAL
	5,093 sf	Stipa ichu / Peruvian Feather Grass	1 GAL

Project Area Boundary

TOTAL LANDSCAPE AREA: 12,849 SF (THIS SHEET)
MINIMUM LANDSCAPE AVERAGE 15% NET SITE AREA.

1 TREE/ PALM PER 5 PARKING SPACES
107 PARKING SPACES = 21 TREES
TOTAL TREE COUNT: 42

NOTE: LANDSCAPE AND IRRIGATION PLANS TO COMPLY WITH PROVISIONS OF THE CITY'S WATER EFFICIENCY LANDSCAPE ORDINANCE NO. 1134. SPECIAL CARE SHALL ALSO BE TAKEN IN ITS PLACEMENT TO PREVENT FUTURE PROPERTY DAMAGE (I.E. ROOTS UPLIFTING THE FOUNDATION).

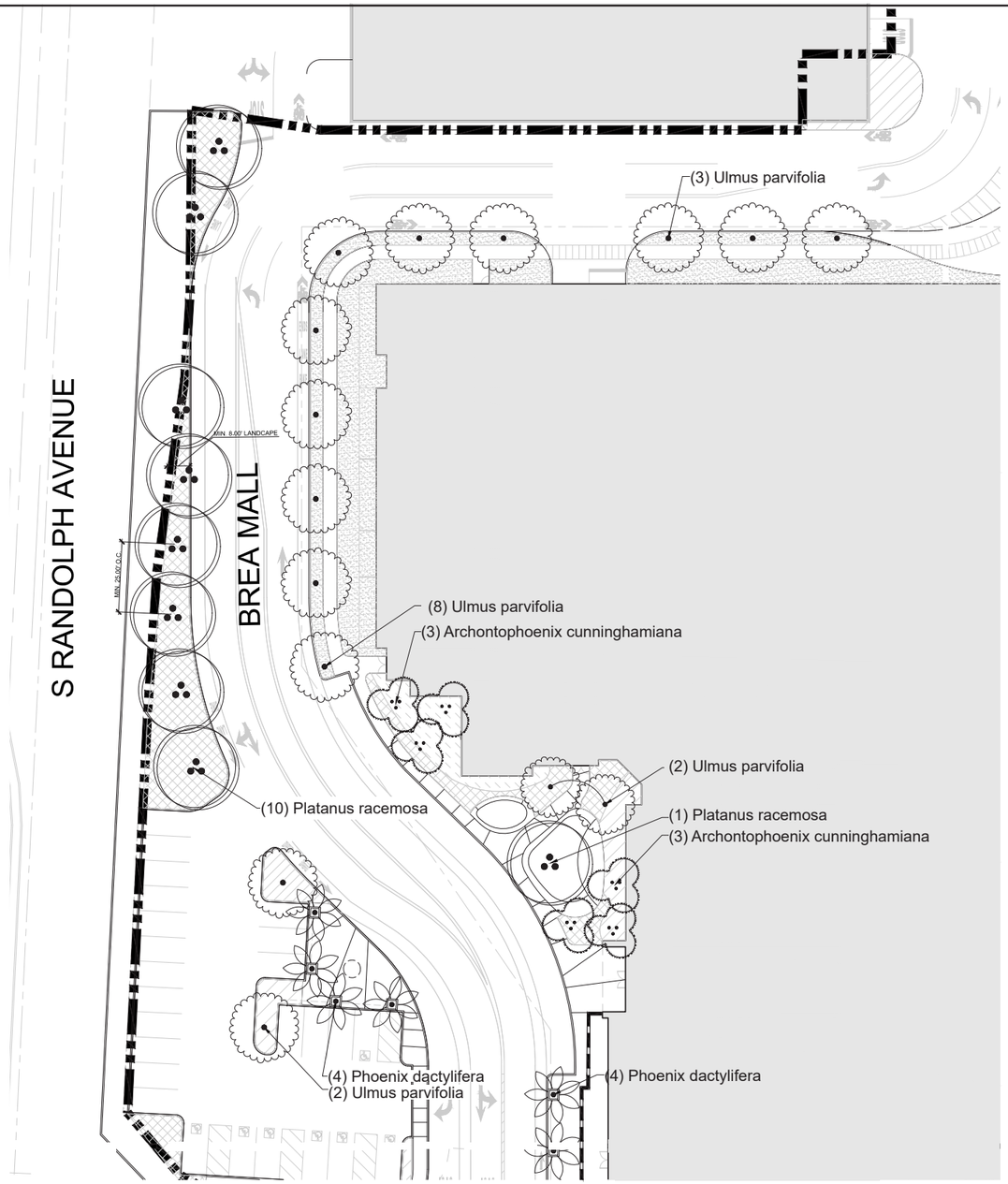
0 40
Scale (Feet)

Source: LandDesign, 2019

3. Project Description

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Figure 3-13 - Residential Building Landscape Plan



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONT	SPEC SIZE
	6	Archontophoenix cunninghamiana / Multi-Trunk King Palm	60" BOX	20` - 25` VARYING HTS
	5	Phoenix dactylifera / Date Palm 'Medjool'	60" BOX	20` MIN CLEAR TRUNK
	9	Platanus racemosa / California Sycamore Multi-Trunk	60" BOX	25` HT
	13	Ulmus parvifolia / Chinese Elm	60" BOX	25` MIN. HT

SHRUB AREAS	QTY	BOTANICAL / COMMON NAME	CONT
	3,095 sf	Carex divulsa / Berkeley Sedge	1 GAL
	878 sf	Muhlenbergia rigens / Deer Grass	1 GAL
	1,420 sf	Stipa ichu / Peruvian Feather Grass	1 GAL

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT
	3,461 sf	Buchloe dactyloides `UC Verde` / UC Verde Buffalo Grass	flat

Project Area Boundary

TOTAL LANDSCAPE AREA: 10,957 SF (THIS SHEET)
MINIMUM LANDSCAPE AVERAGE 15% NET SITE AREA.

1 TREE/ PALM PER 5 PARKING SPACES
35 PARKING SPACES = 7 TREES
TOTAL TREE COUNT: 33

NOTE: LANDSCAPE AND IRRIGATION PLANS TO COMPLY WITH PROVISIONS OF THE CITY'S WATER EFFICIENCY LANDSCAPE ORDINANCE NO. 1134. SPECIAL CARE SHALL ALSO BE TAKEN IN ITS PLACEMENT TO PREVENT FUTURE PROPERTY DAMAGE (I.E. ROOTS UPLIFTING THE FOUNDATION).

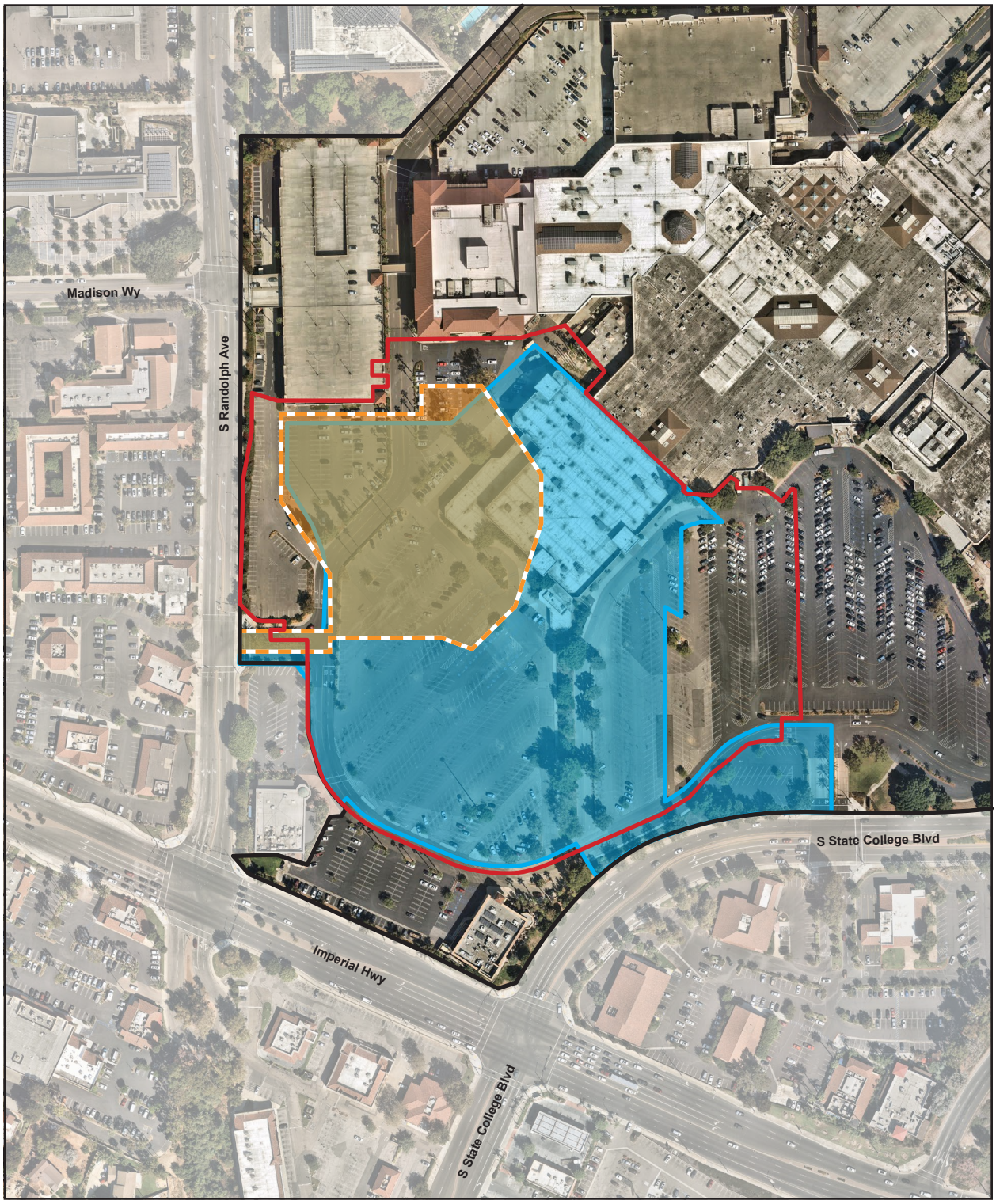
0 40
Scale (Feet)

Source: LandDesign, 2019

3. Project Description

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Figure 3-14 - Lot Line Adjustment
3. Project Description



Brea Mall Boundary
Project Area Boundary
Proposed Property Line Adjustment
Existing Property Line

0 300
Scale (Feet)

Note: The Existing Property Line is based on the adjusted Sears property line based on a May 5, 2018 Alta Survey for the Sears' parcel.

Source: Nearmap, 2020

3. Project Description

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4. Environmental Setting

4.1 INTRODUCTION

This section provides a "description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, ... from both a local and a regional perspective" (Guidelines § 15125[a]), pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the proposed project.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The City of Brea is in the northeast portion of Orange County and is bordered by the cities of La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills in San Bernardino County to the northeast; and unincorporated Los Angeles County to the northwest (see Figure 3-1, *Regional Location*, in Chapter 3, *Project Description*). The project area is approximately 1.5 miles northwest of State Route 57 (SR-57), which runs north-south, and 0.1 mile north of Imperial Highway/State Route (SR-90), which runs east-west. SR-57 and Imperial Highway provide regional access to the site, and local access is provided by Berry Street.

4.2.2 Regional Planning Considerations

4.2.2.1 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 380,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increase capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth

and opportunity; promoting the links between public health, environmental protection and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan. SCAG recently released the 2020-2045 RTP/SCS (Draft Connect SocCal Plan) on November 7, 2019 (SCAG 2019).

The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency. The proposed project's consistency with the applicable 2016-2040 RTP/SCS policies is analyzed in detail in Section 5.5, *Land Use and Planning*.

4.2.2.2 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

The project area is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (South Coast AQMD). Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law, and standards are detailed in the SoCAB Air Quality Management Plan (AQMP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants—ozone (O_3), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O_3, through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet AAQS for that pollutant. Based on the SoCAB AQMP, the SoCAB is designated nonattainment for O_3, $PM_{2.5}$, PM_{10}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO_2 under the California AAQS (CARB 2018). The proposed project's consistency with the applicable AAQS is discussed in Section 5.2, *Air Quality*.

4.2.2.3 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05; Assembly Bill 32 (AB 32), the Global Warming Solutions Act (2008); Executive Order B-15-30 and Senate Bill 32 (SB 32); SB 375; and Executive Order B-5518 and SB 100.

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction goals for the State of California:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

AB 32 was passed by the state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 established a legislative target for the year 2020 goal outlined in

Executive Order S-03-05. CARB prepared its first Scoping Plan in 2008 outlining the State's plan for achieving the 2020 targets of AB 32 (CARB 2008).

In 2008, SB 375 was adopted to connect passenger vehicle GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips.

In September 2016, Governor Brown signed SB 32, making the Executive Order B-15-30 goal for year 2030 of a 40 percent reduction below 1990 levels by 2030 into a statewide-mandated legislative target. CARB issued an update to its Scoping Plan in 2017, which sets forth programs for meeting the SB 32 reduction target (CARB 2017).

Executive Order B-55-18 sets a goal for the state to achieve carbon neutrality no later than 2045 and to achieve and maintain net negative emissions thereafter. SB 100 would help the state reach the goal set by Executive Order B-55-18 by requiring that the state's electricity suppliers have a source mix that consists of at least 60 percent renewable/zero carbon sources in 2030 and 100 percent renewable/zero carbon sources in 2045.

The proposed project's ability to meet these regional GHG emissions reduction target goals is analyzed in Section 5.5, *Greenhouse Gas Emissions*.

4.2.2.4 SENATE BILL 743

On September 27, 2013, SB 743 was signed into law. SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. The legislature found that with the adoption of SB 375, the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32).

SB 743 eliminates auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts under CEQA. Pursuant to the CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code § 21099[b][1]).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. The revised CEQA Guidelines establish new criteria for determining the significance of transportation impacts. Under the new Guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects are required beginning on July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of level of service, but these metrics can no longer constitute the sole basis for determining transportation impacts under CEQA.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

4.3.1.1 PROJECT LOCATION

As shown in Figure 3-1, *Regional Location,* Figure 3-2, *Local Vicinity*, and Figure 3-3, *Aerial Photograph*, the project area is within the City of Brea, at the Brea Mall located at 1065 Brea Mall. The project area encompasses up to 17.5 acres of Brea Mall, which encompasses 74 acres in northeast Orange County. Brea Mall is west of State Route 57 (SR-57) and is generally bounded by State College Boulevard to the east, Imperial Highway (State Route 90) to the south, South Randolph Avenue to the west, The City of Brea City Hall and Embassy Suites by Hilton to the northwest, and East Birch Street to the north.

4.3.1.2 EXISTING LAND USE

An aerial photograph of Brea Mall is shown on Figure 3-3, *Aerial Photograph*. The mall has 1,291,433 square feet commercial square footage and a FAR of 0.43. The mall consists of a central retail core with major department stores as "anchors"—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, and Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures along the Brea Mall Circle (referred to as the "outlot" or "out parcels"), including the Olive Garden, Red Lobster, and the Cheesecake Factory.[1] The mall can be accessed from three of the surrounding streets—State College Boulevard, South Randolph Avenue, and Birch Street. Mall parking is provided on surface spaces and in three parking structures. On January 4, 2018, Sears announced that, as part of a plan to close 103 stores nationwide, it would close its store at the Brea Mall, which was an anchor on the southwest side. Sears closed in April 2018, and the first floor of that building (83,500 square feet) is now leased by another retail store. Figures 4-1a and 4-1b, *Site Photographs*, show the existing conditions at the site.

4.3.1.3 SURROUNDING LAND USE

The project area is surrounded by commercial, institutional, and residential uses and is bounded by East Birch Street to the north, State College Boulevard to the east, Imperial Highway to the south, and South Randolph Avenue to the west. To the northwest of the mall are Embassy Suites by Hilton and the City of Brea Civic Center. Across East Birch Street, to the north, are the Brea Marketplace Shopping Center and associated parking lot, and Brea Place to the northeast. To the east of State College Boulevard are SR-57, the Brea Plaza Shopping Center, and residences. To the south of the mall and the outlot structures are restaurants and retail, a gas station, and Craig Regional Park, all of which are south of Imperial Highway. To the west of the mall are retail and commercial uses, including the Brea Mall Executive Plaza, the Brea Community Center, and United States Postal Service.

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

Figure 4-1a - Site Photographs
4. Environmental Setting



Photo 1. View from the north side of the southwestern parking lot of the Brea Mall, looking north toward the Nordstrom Parking Structure.



Photo 2. View from the northeast corner of the southwestern parking lot of the Brea Mall, looking northwest toward the Nordstrom Parking Structure.



Photo 3. View from the west side of Brea Mall road, near BJ's Restaurant & Brewhouse, looking southeast along Brea Mall road.

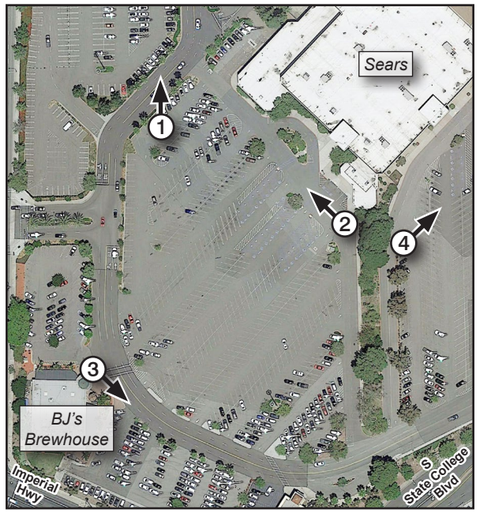




Photo 4. View from the west side of the southern parking lot of the Brea Mall, looking northeast toward Macy's and Brea Mall's south entrance.

4. Environmental Setting

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Figure 4-1b - Site Photographs
4. Environmental Setting



Photo 1. View from the south side of Brea Mall road, looking north toward the southern entrance of Brea Mall.



Photo 2. View from the north side of the southern parking lot, looking south.



Photo 3. View from the west side of the southern parking lot, looking southwest toward BJ's Restaurant & Brewhouse.



Photo 4. View from the west side of the southern parking lot, looking northwest toward the Nordstrom Parking Structure.

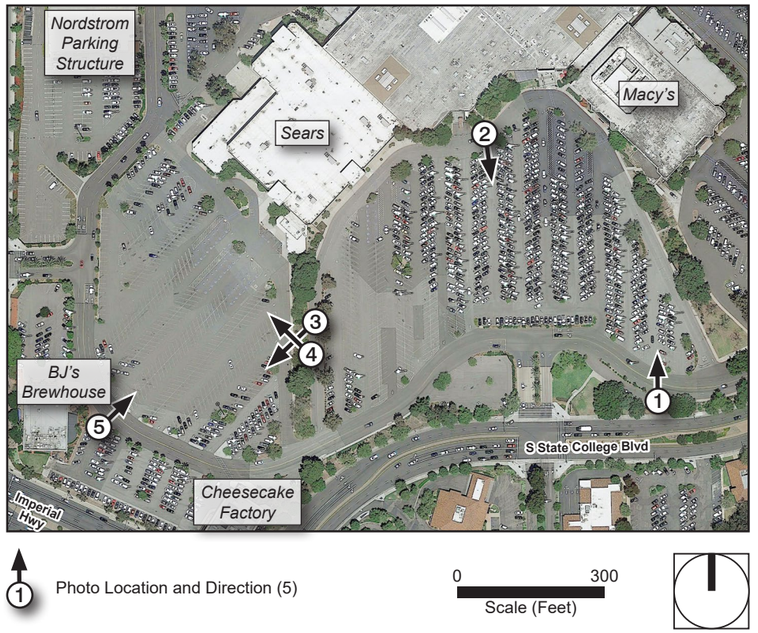




Photo 5. View from the south side of Brea Mall road, looking northeast toward the former Sears store.

4. Environmental Setting

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4.3.2 Environmental Resources and Infrastructure

4.3.2.1 AESTHETICS

The project area is currently developed as Brea Mall, which includes the former Sears retail building and parking lot. Refer to Section 5.1, *Aesthetics*, of this DEIR, for more information on the existing visual quality of the site.

4.3.2.2 AIR QUALITY

The SoCAB, which is managed by South Coast AQMD, is designated as nonattainment for O_3, $PM_{2.5}$, under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2018). A discussion of regional air quality considerations is described above in Section 4.2.2. Existing air quality conditions in the City are analyzed in Section 5.2, A*ir Quality*, of this DEIR.

4.3.2.3 CULTURAL RESOURCES

The project area is currently developed and is not listed as a state or national historic resource. Five archaeological resources have been identified with the one-mile radius, but not on the project area (SCCIC 2019). According to the Native American Heritage Commission's Sacred Lands record search, no tribal resources were found on the project area. Refer to Section 5.3, *Cultural and Paleontological Resources*, of this DEIR, for more information on historical, archaeological, and paleontological resources.

4.3.2.4 ENERGY

The project area is currently developed and utilizes various forms of energy throughout its operation as a mall (electricity, natural gas, and transportation). Refer to Section 5.4, *Energy*, for a discussion of energy use and requirements in California.

4.3.2.5 GREENHOUSE GAS EMISSIONS

Global climate change is not confined to a particular project area, and even very large projects do not generate enough greenhouse gas emissions on its own to influence global climate change significantly. A discussion of regional GHG considerations are described above in Section 4.2.2. Refer to Section 5.5, *Greenhouse Gas Emissions*, of this DEIR, for a discussion of existing GHG emissions in California.

4.3.2.6 HAZARDS AND HAZARDOUS MATERIALS

The project area is currently developed. Based on the Phase I Environmental Site Assessment (ESA), the portion of the site occupied by Sears had an automotive service center that used an emergency generator, hydraulic elevators, a solid waste compactor, a cardboard baler, two storage tanks, interior floor drains, pad-mounted transformers, and a solid waste dumpster. Other features were five hydraulic hoists and a 4-stage oil/water separator. The Phase II ESA assessed impacts from the operation of the six alternative hydraulic hoists (an extra hoist was identified during the Phase II investigation) and the 4-stage oil water separator. The

project area is not listed on EnviroStor and GeoTracker (DTSC 2019; SWRCB 2015). Section 5.6, *Hazards and Hazardous Materials*, provides further analysis of hazards and hazardous materials.

4.3.2.7 LAND USE AND PLANNING

The project area is in an urbanized area, surrounded by residential and commercial uses. The project area is currently zoned C-C Major Shopping Center Zone with a P-D Precise Development overlay, and the General Plan land use designation for the site is Regional Commercial with a FAR of 0.65. Section 5.7, *Land Use and Planning*, provides further analysis of regional and local land use plans applicable to the proposed project.

4.3.2.8 NOISE

The project area is currently developed, and the noise environment surrounding the project area is influenced by the onsite operations and activities, surrounding roadway sources, and nearby residential, institutional, and commercial uses. Refer to Section 5.8, *Noise,* for additional information concerning the existing noise environment.

4.3.2.9 POPULATION AND HOUSING

The existing Brea Mall consists of 1,291,433 square feet of commercial square footage, and the mall creates approximately 1,834 employment opportunities. Refer to Section 5.9, *Population and Housing*, for further information on population and housing.

4.3.2.10 PUBLIC SERVICES

Police services in Brea are provided by the City of Brea Police Department. The City of Brea Fire Department provides fire service. The project area is within the Brea-Olinda Unified School District boundaries. The Brea Branch Library, which is part of the Orange County Public Library community library network, provides library services in Brea. Refer to Section 5.10, *Public Services*, for additional information on public services.

4.3.2.11 RECREATION

The existing Brea Mall does not include recreational facilities; Craig Regional Park is approximately 720 feet south. Refer to Section 5.11, *Recreation,* for information on recreational facilities.

4.3.2.12 TRANSPORTATION

Regional access to the project area is provided by SR-57, which runs north-south and is approximately 175 feet west, and Imperial Highway (SR-90), which runs east-west and is approximately 180 feet south of the project area. Vehicular access to the mall and outlot structures would continue from the existing driveways. Refer to Section 5.12, *Transportation*, for additional information concerning existing transportation and traffic conditions.

4.3.2.13 TRIBAL CULTURAL RESOURCES

The Native American Heritage Commission's Sacred Lands File record search found no tribal resources on the project area. Refer to Section 5.13, *Tribal Cultural Resources,* for additional information on tribal cultural resources.

4.3.2.14 UTILITIES AND SERVICE SYSTEMS

The project area is currently developed and has utility connections and tie-ins onsite. Water and wastewater is treated by the Orange County Sanitation District, water is supplied by the California Domestic Water Company and the Municipal Water District of Orange County through the City of Brea Water Division, and solid waste is transported to the Olinda Alpha landfill.

4.3.3 Local Planning Considerations

The General Plan Land Use designation for the site is Regional Commercial, and it is zoned C-C Major Shopping Center Zone, with a P-D Precise Development overlay, as shown in Figure 4-2, *General Plan Land Use Designations*. The proposed project would require a zone change to Mixed Use I and a lot line adjustment. Figure 4-3, *Zoning,* shows the existing zoning designation for the project area and surroundings.

4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed where they are significant. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the project alone. Section 15355 of the Guidelines defines cumulative impacts to be "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts represent the change caused by the incremental impact of a project when added to other proposed or committed projects in the vicinity.

The CEQA Guidelines (Section 15130 [b][1]) state that the information utilized in an analysis of cumulative impacts should come from one of two sources:

A. A list of past, present and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or

B. A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

The cumulative impact analyses in this EIR uses a combination of method A and B. Generally, the growth projections that are identified in City of Brea General Plan have been utilized for the general plan forecast year conditions. Table 4-1, *Related Cumulative Projects Within Two Miles*, provides a list of cumulative projects in a two-mile radius of the project area.

4. Environmental Setting

Table 4-1 Related Cumulative Projects Within Two Miles

Project/Applicant Name	Location	Project Type/Size
City of Brea		
CVS	390 N. Brea Boulevard	13,000 SF Pharmacy with Drive-through 1,700 SF Coffee Shop with Drive-through
Brea Place	State College Boulevard at Birch Street	653 Unit Apartments[2] 5,000 SF Office 150 Room Hotel
Downtown Hotel	220 S. Brea Boulevard	116 Room Hotel 4,000 SF High Turnover Sit Down Restaurant
Mercury Apartments	Southwest corner of Berry Street at Mercury Lane	Up to 120 DU Apartments
Brea Plaza Expansion Project	409-477 S. Associated Road & 1555, 1609, 1623, 1643 E. Imperial Highway	Demolish 18,750 SF Movie Theater and 7,500 SF Restaurant Construct 150 Room Hotel 4,997 SF Restaurant 16,914 SF Office
Brea 265 Specific Plan[1]	East of North Rose Drive and North of East Imperial Highway	606 Single Family Units 494 Multi-Family Units Total of 1,100 Units
City of Fullerton		
Beckman Business Center	4300 North Harbor Boulevard	522,250 SF Warehousing 124,750 SF General Light Industrial 142,35 SF Manufacturing 42,000 SF Office

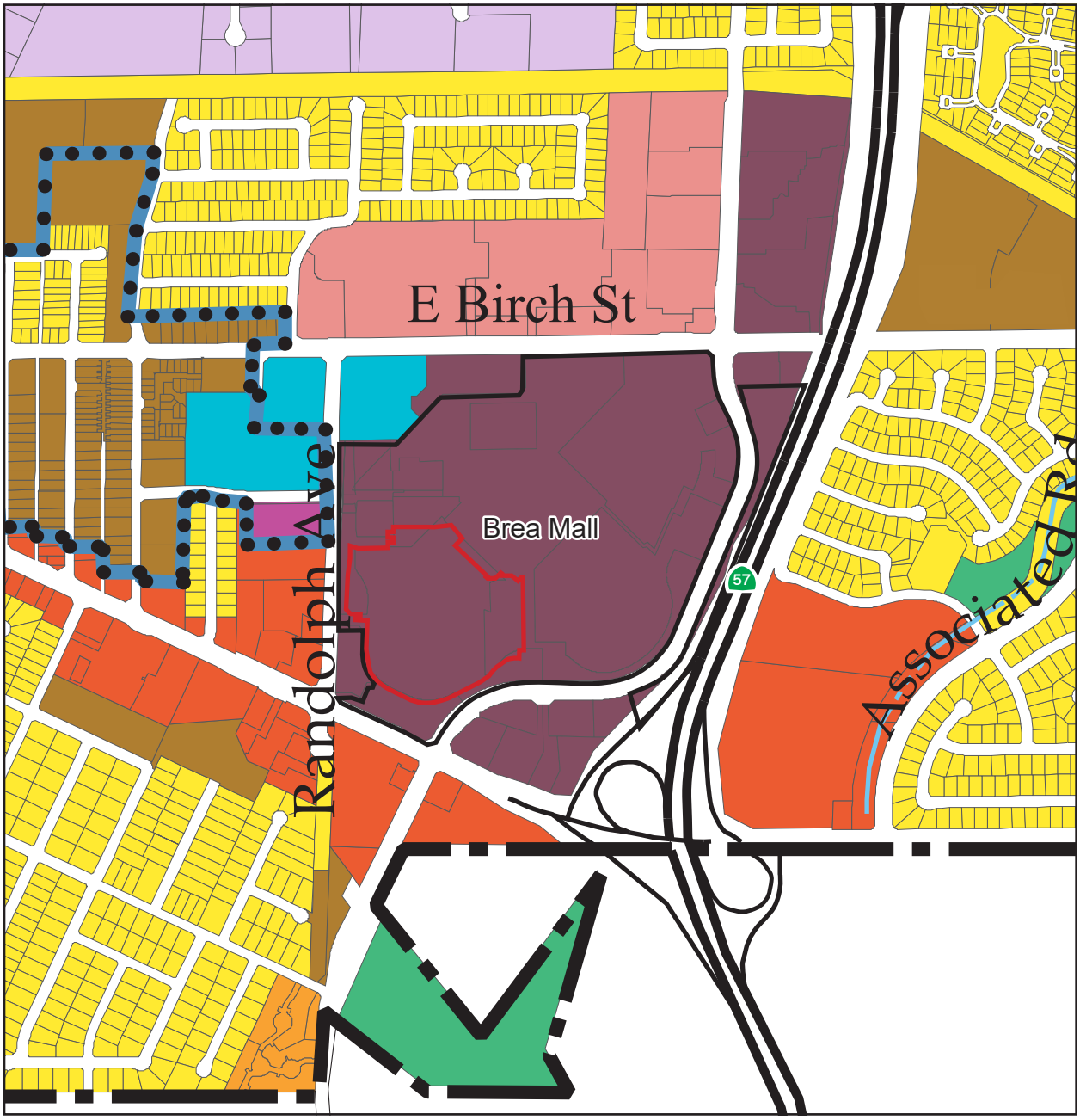
Source: LLG 2020
Notes: SF: square feet
[1] Brea 265 Specific Plan is over two miles from the proposed project but is included in the year 2040 scenario in the traffic impact analysis because of its scale within the city and the potential for traffic to cumulatively contribute to impacts to Caltrans facilities.
[2] The traffic impact analysis conservatively evaluated 790 units, which would result in higher traffic volumes in the cumulative traffic scenarios.

Depending on the environmental category, the cumulative impact analysis may use either source A or B. Some impacts are site specific, such as cultural resources, and others may have impacts outside the city boundaries, such as regional air quality. Please refer to Chapter 5, *Environmental Analysis*, for a discussion of the cumulative impacts associated with development and growth in the City and region for each environmental resource area.

Cumulative impact analyses for several topical sections are also based on the most appropriate geographic boundary for the respective impact. Several potential cumulative impacts that encompass regional boundaries (e.g., air quality and traffic) have been addressed in the context of various regional plans and defined significance thresholds. Climate change is a global issue, and the cumulative impacts analysis has been addressed in the context of state regulations and regional plans designed to address the global cumulative impact.

Figure 4-2 - General Plan Land Use Designations

4. Environmental Setting



City Boundary

Brea Town Plaza Specific Plan Boundary

Brea Mall Boundary

Project Area Boundary

General Plan Land Use Designations

Residential Designations

- Low Density Residential
- Medium Density Residential
- High Density Residential

Non-Residential Designations

- Regional Commercial
- General Commercial
- Office/Financial
- Light Industrial
- Public Facilities
- Parks/Recreation/OpenSpace

Mixed Use Designations

- Mixed Use I

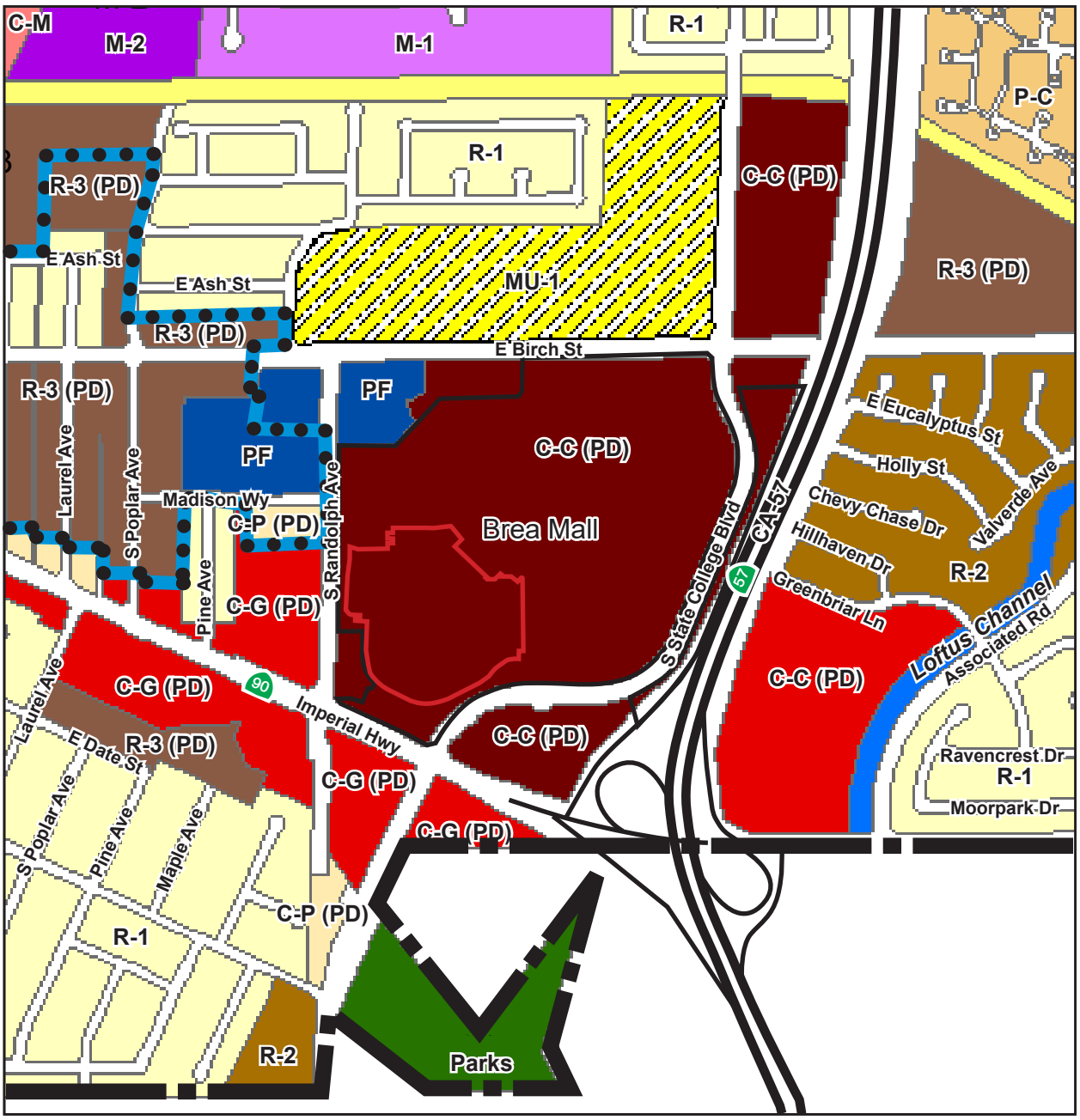
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Scale (Feet)

Source: Brea 2003

4. Environmental Setting

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Figure 4-3 - Zoning
4. Environmental Setting



City Boundary
Brea Town Plaza Specific Plan Boundary
Brea Mall Boundary
Project Area Boundary

C-C Major Shopping Center
C-G General Commercial
C-M Industrial Commercial
C-P Administrative and Professional Office
MU-1 Mixed Use-1
M-1 Light Industrial
M-2 General Industrial
P-C Planned Community
R-1-H Single-Family Residential-Hillside
R-2 Multiple Family
R-3 Multiple Family
PF Public Facilities
Parks/Recration/Open Space/-Parks/Recreation

0 1,000
Scale (Feet)

Source: City of Brea, 2019

4. Environmental Setting

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The following is a summary of the approach and extent of cumulative impacts, which are further detailed in each environmental topical section:

- **Aesthetics.** The geographic context for the analysis of cumulative aesthetics and visual resources impacts includes developments in the City of Brea. The proposed project's physical impacts are localized and would take place within the footprint of the Brea Mall site.

- **Air Quality.** Air quality impacts include regional (cumulative) impacts and localized impacts. For cumulative impacts, the analysis is based on the regional boundaries of the SoCAB.

- **Cultural and Paleontological Resources.** Cumulative impacts consider the potential for the proposed project in conjunction with nearby existing and reasonably foreseeable development projects to result in impacts on cultural resources in the project area and an area within a one-half-mile radius of the project area for historical, archaeological, and paleontological resources and for tribal cultural resources significant to local Native American tribes.

- **Energy.** Energy impacts are site specific and can contribute to the consumption and demand for energy in the region.

- **Greenhouse Gas (GHG) Emissions.** GHG emissions impacts are not site-specific impacts but cumulative impacts. Therefore, the project-level analysis in Section 5.5 also provides the analysis to determine whether the project would make a cumulatively considerable contribution to significant cumulative GHG emissions impact.

- **Hazards and Hazardous Materials.** Impacts are typically site specific and generally would not combine with impacts of other projects to result in cumulatively considerable impacts, but the cumulative impacts analysis in this EIR considers the combined effects of nearby past and reasonably foreseeable projects in conjunction with the project.

- **Land Use and Planning.** Cumulative impacts are based on applicable jurisdictional boundaries and related plans, including the City of Brea General Plan and regional land use plans (e.g., SCAG's RTP/SCS).

- **Noise.** Cumulative traffic noise impacts are based on the traffic study, which considers the regional growth based on citywide and regional projections. Cumulative construction impacts are based on nearby projects that may have concurrent construction schedules. Cumulative operational impacts are based on existing development combined with the project and reasonably foreseeable nearby future development.

- **Population and Housing.** Cumulative impacts are based on regional demographic projections in regional plans (e.g., SCAG's RTP/SCS).

- **Public Services.** Cumulative impacts are based on potential related development within each service provider's boundaries—Brea Fire Department, Brea Police Department, Brea-Olinda Unified School District, and Brea Public Library.

- **Recreation.** Cumulative impacts are based on the potential related development within the proximity to recreational facilities.

- **Transportation.** The traffic study considers the project's cumulative contribution to traffic and transportation issues in project vicinity. The cumulative traffic analysis is based on a regional transportation demand model and incorporates regional growth projections identified by SCAG and the Orange County Transportation Authority (OCTA). The cumulative analysis of transit, bicycle, and pedestrian transportation impacts is based on City plans and policies. For the opening year analysis, the traffic analysis includes background traffic growth using an ambient traffic growth factor (1 percent per year) to account for regular growth in traffic volumes due to the development of projects outside the study area as well as traffic growth from other known development projects (related projects) within a two-mile radius of the proposed project in the City of Brea, City of Fullerton, and City of La Habra (see Table 4-1).

- **Tribal Cultural Resources.** Cumulative impacts related to tribal cultural resources are based on the local Native American tribes' culturally significant areas and include, but are not limited to, cultural landscapes and regions to specific heritage sites and other tribal cultural places.

- **Utilities and Service Systems.** Cumulative impacts related to utilities are based on the utility companies' service boundaries.

4.5 REFERENCES

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4. Environmental Setting

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5. Environmental Analysis

Chapter 5 examines the environmental setting of the proposed project, analyzes its effects and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts. This chapter has a separate section for each environmental issue area that was determined to need further study in the EIR. This scope was determined in the notice of preparation (NOP), which was published on August 16, 2019 (see Appendix A), and through public and agency comments received during the NOP comment period from August 16 through September 16, 2019 (see Appendix A). Environmental issues and their corresponding sections are:

- 5.1 Aesthetics
- 5.2 Air Quality
- 5.3 Cultural and Paleontological Resources
- 5.4 Energy
- 5.5 Greenhouse Gas
- 5.6 Hazards and Hazardous Materials
- 5.7 Land Use and Planning
- 5.8 Noise
- 5.9 Population and Housing
- 5.10 Public Services
- 5.11 Recreation
- 5.12 Transportation
- 5.13 Tribal Cultural Resources
- 5.14 Utilities and Service Systems

The following topical areas are discussed in Chapter 8, *Impacts Found to Be Less Than Significant*.

- Agriculture and Forestry Resources
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Mineral Resources

Sections 5.1 through 5.14 provide detailed discussion of the environmental setting, impacts associated with the proposed project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure are also discussed.

The initial study also determined that certain issues under an environmental topic would not be significantly affected by implementation of the project; these issues are not discussed further in this EIR.

5. Environmental Analysis

Organization of Environmental Analysis

To assist the reader with comparing information between environmental issues, each section is organized under nine major headings:

- Environmental Setting
- Thresholds of Significance
- Plans, Programs, and Policies
- Environmental Impacts
- Cumulative Impacts
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, Chapter 1, *Executive Summary,* has a table that summarizes all impacts by environmental issue.

Terminology Used in This Draft EIR

The level of significance is identified for each impact in this DEIR. Although the criteria for determining significance are different for each topic area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with CEQA and the CEQA Guidelines:

- **No impact.** The project would not change the environment.
- **Less than significant.** The project would not cause any substantial, adverse change in the environment.
- **Less than significant with mitigation incorporated.** The EIR includes mitigation measures that avoid substantial adverse impacts on the environment.
- **Significant and unavoidable.** The project would cause a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less than significant level.

5.1 AESTHETICS

This section of the Draft Environmental Report (DEIR) discusses the potential impacts to the visual character of the project area and its surroundings from development of the proposed project. This section includes a discussion of the qualitative aesthetic characteristics of the environment that could be potentially degraded by the project's implementation. The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, as well as an overall visual perception of the environment. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts. Potential aesthetic impacts can be evaluated by considering proposed grade separations, landform alteration, building setbacks, scale, massing, and landscaping features associated with the design of the proposed project.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

Local

City of Brea Municipal Code

Chapter 20.08, Development Standards, of the City of Brea Municipal Code provides development standards for lighting, off-street parking and loading, transportation demand management requirements, as well as other development standards. Chapter 20.236.040, Property Development Standards, of the Brea Municipal Code provides standards for landscaping, walls and fences. Chapter 20.408, Administrative Procedures, lists the plan review procedure process in order to enable responsible city departments to review development proposals for conformity with applicable provisions of the code and all requirements of law.

Additionally, Chapter 20.258, Mixed-Use Zoning Districts, provide general development standards for the mixed-use zoning districts within the City, which include development standards for lot area and dimensions, yards and outdoor living space. Furthermore, Chapter 20.28, Signs, of the Brea Municipal Code provides regulation and control of the location, size, type, content, and number of signs permitted.

City of Brea General Plan

The Community Resources Element of the City of Brea General Plan provides the following policies pertaining to the preservation and protection of scenic resources:

- **Policy CR-10.1:** Create and enforce special standards for development occurring within potential scenic highway corridors.
- **Policy CR-10.2:** Identify streets with unique man-made or natural characteristics for special consideration as scenic routes.
- **Policy CR-10.3:** Manage stands of mature trees, particularly native species, as unique and visual resources.

- **Policy CR-10.4:** Preserve major rock outcroppings as unique landmarks and visual resources to the maximum extent possible.

- **Policy CR-10.5:** Preserve stream courses in their natural state, as they represent a recreation resource, provide community identity, and serve as unifying corridors in the planning area.

- **Policy CR-10.6:** Work aggressively with Orange County, Los Angeles County, State and other appropriate agencies, private entities, and landowners to conserve, protect, and enhance natural resources, particularly within the sphere of influence.

The Urban Design section of the Community Development of the City of Brea General Plan includes the following goals pertaining to the aesthetic qualities and design of development in Brea:

- **Goal CD-17:** Promote and maintain a distinct community identity and sense of place that include the presence of identifiable districts and neighborhoods.

- **Goal CD-18**: Emphasize the use of public spaces and pedestrian and transit use throughout the community.

- **Goal CD-19:** Encourage active and inviting street environments that include a variety of uses within the Commercial and Mixed-Use areas.

- **Goal CD-20:** Encourage site planning within Commercial and Mixed-Use districts that functionally and visually integrates on-site facilities and uses, including buildings, services, access, and parking.

- **Goal CD-21:** Integrate residential development with its built and natural surroundings, and in particular, encourage a strong relationship between dwellings and the street.

- **Goal CD-22:** Encourage the use of native plant palettes in the creation of landscaping plans used to establish a sense of place in neighborhood identification efforts.

The Community Development Element of the City of Brea General Plan includes the following policies for Downtown Brea:

Policies for Creating a Sense of Place

- Provide diverse housing, employment, and cultural opportunities throughout the Downtown, with an emphasis on compact, mixed-use, and pedestrian-oriented development patterns that are appropriate to the core of the City.

- Accommodate a range of housing densities and residential building types, including non-traditional forms that enliven the Downtown setting, such as small lot single-family residential, housing over retail, lofts, and live-work accommodations.

- Promote the Brea/Birch intersection as the vibrant heart of Downtown and the principal center of public life for the community; this node should function as a highly identifiable shopping and entertainment destination for Brea and neighboring communities.

- Enhance the public character of the Civic and Cultural Center and its surroundings; this area of Downtown should be highly accessible and much more accommodating of people, with an emphasis on transit- and pedestrian-oriented development.

Policies for Creating Connections

- Build especially prominent visual and physical connections between Downtown and the remainder of the community; key strategies for establishing strong links are district gateways, landscape corridors, convenient transit, comfortable and attractive transit stops, and walkable streets.

- Create an extensive network of safe and comfortable pedestrian linkages throughout the Downtown, including visually attractive, high-amenity streetscapes, pedestrian paseos and paths, and urban outdoor rooms.

- Strengthen the connection along Birch Street between the heart of Downtown and the Civic and Cultural Center; pedestrian-oriented, mixed-use development, and a high level of streetscape amenity are encouraged.

5.1.1.2 EXISTING CONDITIONS

An aerial photograph of the Brea Mall is shown on Figure 3-3, *Aerial Photograph,* in Chapter 3, *Project Description*. The mall has 1,291,433 square feet of gross leasable area and a floor area ration of 0.43. The mall consists of a central retail core with major department stores as "anchors"—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, & Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures along the Brea Mall Circle (referred to as the "outlot" or "out parcels"), including the Olive Garden, Red Lobster, and The Cheesecake Factory.[1] The mall can be accessed from three of the surrounding streets—State College Boulevard, South Randolph Avenue, and Birch Street. Mall parking is provided in surface spaces and three parking structures. On January 4, 2018, Sears announced that, as part of a plan to close 103 stores nationwide, it would close its store at the Brea Mall, which was an anchor on the southwest side. Sears closed in April 2018, and the first floor of that building (83,500 square feet) is now leased by another retail store.

Visual Character

The Brea Mall is in an urbanized area in the western portion of the City of Brea. It is surrounded by commercial, institutional, and residential uses and is bounded by East Birch Street to the north, State College Boulevard to the east, Imperial Highway to the south, and South Randolph Avenue to the west. To the

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

northwest of the mall are Embassy Suites by Hilton and the City of Brea Civic Center. Across East Birch Street, to the north, are the Brea Marketplace Shopping Center and associated parking lot. To the east of State College Boulevard are SR-57, the Brea Plaza Shopping Center, and residences. To the south of the mall and the outlot structures are restaurants and retail, a gas station, and Craig Regional Park, all of which are south of Imperial Highway. To the west of the mall are retail and commercial uses, including the Brea Mall Executive Plaza, Brea Community Center, and United State Postal Service.

As shown in Figures 4-1a and 4-1b, *Site Photographs,* in Chapter 4, *Environmental Setting*, the project area contains existing development and parking lot and structure associated with the existing Brea Mall. The commercial uses onsite are generally buffered from surrounding uses by large expanses of surface parking and surrounding roadways. The buildings onsite generally have beige-, brown-, and cream-colored stucco exteriors; the Nordstrom building has a light red-colored stucco exterior and terracotta tile roofing, and the associated parking structure has a light- and dark-brown-colored stucco exterior and terracotta tile roofing. The buildings onsite consist of a generally unifying theme and development pattern, and the buildings on the project area are visually similar to the surrounding commercial uses to the north, west, and south of the Brea Mall.

The vegetation on the project area consists of ornamental trees, shrubs, and grasses scattered throughout the surface parking lots of the project area. The project area is fully developed and contains no areas of natural or substantial open space. Craig Regional Park is located to the south of the project area and Imperial Highway, and to the east of commercial uses.

Visual Resources

The project area is fully developed with the existing Brea Mall; no visual resources are present on the project area.

Landform and Topography

The project area gradually slopes from the east to the west. The eastern portion of the project area sits approximately 20 feet higher than the western portion of the project area. The western portion of the project area is approximately 20 feet below the grade of Randolph Avenue at the northwest portion of the project area.

Scenic Vistas and Corridors

According to Figure CR-4, Scenic Resources, of the City of Brea General Plan, SR-57 approximately 235 feet to the east of the project area is eligible for California State Scenic Highway Status (Brea 2003).

5.1.2 Thresholds of Significance

Appendix G of the CEQA Guidelines states that, "except as provided in Public Resources Code Section 21099," a project would normally have a significant effect on the environment 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 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AE-3 In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

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

5.1.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP AES-1 The proposed project is required to provide a minimum landscaped coverage of 15 percent of the net site area in accordance with Municipal Code Section 20.258.020, General Development Standards for the Mixed-Use Zoning Districts.

PPP AES-2 For parking areas, the proposed project is required to maintain an equivalent of one foot candle of illumination on the average throughout the parking area. The lighting is required to be on a time-clock or photo-sensor system. The lighting shall be designed to confine direct rays to the premises. No spillover beyond the property line shall be permitted in accordance with Municipal Code Section 20.08.040(C)(5), Lighting.

PPP AES-3 All lighting, interior and exterior, shall be designed and located so as to confine all direct rays to the premises in accordance with Municipal Code Section 20.220.040(L), Lighting. Lighting for nonresidential uses shall be appropriately designed, located, and shielded to ensure that they do not negatively impact the residential uses in compliance with Section 20.08.040 (C)(5).

PPP AES-4 Signs shall be located in a manner to assure that sight distance is not impaired at all locations for vehicular traffic to and from the premises, in accordance with Municipal Code Section 20.28, Signs. Amendments to the existing signage program for erections of a new sign at the Mall entrance requires review of the Planning Commission to ensure that its size, location, movement, content, coloring, or manner of illumination, does not constitute a traffic hazard or a detriment to traffic safety by obstructing the vision of drivers, or detracting from the visibility of any official traffic control device, or by diverting or tending to divert the attention of drivers of moving vehicles from the traffic movement on the public streets and highway.

PPP AES-5 Loading areas. Loading areas for nonresidential uses shall be located as far as possible from residential units and shall be completely screened from view from the residential portion of the project and streets in compliance with subsections 20.236.040. E, Walls and Fences, and 20.220.040. F, Fences, Walls, and Hedges, and subparagraph K. Screening and buffering standards Loading areas shall be compatible in architectural design and details with the overall project. The location and design of loading areas shall mitigate nuisances from odors when residential uses might be impacted in accordance with Section 20.258.030 (I)(3) Loading Areas.

PPP AES-6 Recycling and refuse storage facilities for nonresidential uses shall be located as far as possible from residential units and shall be completely screened from view from the residential portion of the project and streets in compliance with Section 20.236.040.E. Walls and Fences, and 20.220.040.F, Fences, Walls, and Hedges, and subparagraph K, Screening and buffering standards. Recycling and refuse storage facilities for nonresidential uses should be compatible in architectural design and details with the overall project. The location and design of trash enclosures shall mitigate nuisances from odors when residential uses might be impacted in accordance with Section 20.258.030 (J) Recycling and refuse storage facilities standards.

5.1.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which were disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: The proposed project would not substantially alter the visual appearance of the project area. [Thresholds AE-1 and AE-3]

The proposed project would result in the redevelopment of a 17.5-acre expansion area (project area) within the 74-acre Brea Mall site. The proposed project would allow for a mix of uses on the project area, including retail, for-rent residential apartments, a resort-type fitness center, and a gathering space (large central green and plaza).

Scenic Vistas

Vistas provide access or panoramic views to a large geographic area. The Community Resources Element of the City's General Plan states, "Scenic resources enhance the visual character of the community and provide distinguishing characteristics, an invaluable asset that benefits a community" (Brea 2003). The project area is fully developed and is located within a highly urbanized portion of the City that is generally flat. The City of Brea General Plan states that "vista points can be found throughout Brea both from urban areas toward the hills and from wilderness areas looking back onto Brea" (Brea 2003).

Chino Hills State Park offers views throughout the park, such as the views from Telegraph Canyon, Sonome Canyon, Soquel Canyon, and Lions Canyon; however, Gilman Peak is called out as a "viewpoint of particular interest" and is denoted as a scenic viewpoint in Figure CR-4 of the City of Brea General Plan (Brea 2003).

Gilman Peak is approximately six miles east of the project area. Due to the distance, varying topography, and highly urbanized nature of the City, views of and from Chino Hills State Park, particularly Gilman Peak, would not be impacted.

Visual Character

Figure 3-5, *Conceptual Site Plan,* shows that the redevelopment of the mall would occur south of the existing Nordstrom building and parking structure; the residential component of the proposed project would be on the western portion of the project area; and the retail portion of the proposed project would be to the east, with the central green and plaza centrally located between both the residential and retail components of the proposed project.

Residential Building and Parking Structure

As shown on Figure 3-6, *Conceptual Residential Building Site Plan,* the residential component of the proposed project would include mixed-use retail and residential, with retail at the ground level to the east; a parking garage to the north (just south of the Nordstrom parking garage), and additional residential units to the west and south of the parking garage. The pool courtyard area would be centrally located within the residential units, mixed-use residential and retail, and the clubhouse, leasing, fitness, and mailroom area.

Figures 5.1-1a and 5.1-1b, *Residential Building Conceptual View,* show the design of the seven-story residential building. The exterior of the building would consist of a light-sand-finish stucco and architectural paneling with a metallic finish. The perforated metal panel railing, architectural trim with a wood finish, and metal awnings would provide decorative finishes to the building's exterior. The third floor would include glass railing and planters with concrete finishing, and the building's windows would be vinyl. The parking garage would be concrete painted a cream color.

The Mixed Use zone allows structures up to 100 feet in height. The residential building would be approximately 60 feet and 6 inches to the top of the seventh floor, and the highest point of the building would be 89 feet and 8 inches to the top of the roof. If developed, it would smaller in height than the existing Embassy Suites Hotel to the north of the mall and the approved residential developments at Brea Place, north of the project area.

As shown in Figures 4-1a and 4-1b, the topography of the project area varies. The eastern portion of the project area is approximately 20 feet higher than the western portion of the project area. In addition, Randolph Avenue gradually increases in elevation so that Nordstrom's four-story parking garage is accessed on the third level. To soften the bulk of the residential building, it would fit into the existing elevations and would be developed in the lowest portion of the project area, with a ground-floor elevation of 339.5 feet. (Randolph Avenue sits at 360 feet.) Consequently, the residential building would sit 20 feet below the existing grade of Randolph Avenue. Each residential story is approximately 10 feet in height; therefore, from Randolph Avenue, approximately five of the seven stories would be above the grade of Randolph Avenue. Westward views on the project area would not be substantially impacted due to the elevation difference across the project area. Figure 5.1-2, *Residential Building Conceptual Perspectives,* shows the perspective views of the residential building from various viewpoints. Additionally, building pop-outs, variations in building rooflines,

material colors, and landscaping would be added and modulated to offset the building's massing, provide human scale, promote visual interest and articulation, and provide relief to and variation in the building form and style.

Mall Buildings, Fitness, and Parking Structure

Figures 5.1-3a, 5.1-3b, and 5.1-3c, *Mall Buildings Conceptual View,* show the design of the retail buildings, and Figure 5.1-4, *Conceptual Mall Buildings Cross-Section*, illustrates the cross-sectional views of the retail buildings. The retail component of the proposed project would be two levels. The entry section would be approximately 45 feet and 6 inches to the top of the canopy and 33 feet to the top of the second-floor storefront. The lower level retail would be 23 feet and 6 inches to the top of the parapet and 22 feet to the top of the roof, and the upper level retail would be 38 feet and 6 inches to the top of the parapet and 36 feet to the top of the roof. The exterior of the building would include a variety of materials and decorative finishes. The upper level retail would include wood paneling and brownish-gray bricks, the lower level retail would include cream- and colored- porcelain tile facades and siding, and the entry sections would include dark gray glass fiber reinforced concrete paneling and metal-colored fascia. Figure 5.1-5, *Retail Parking Structure,* shows that the proposed structure would be painted brown and would include concrete spandrel; at its highest point, the structure would be 68 feet tall and would be six levels.

The three-story fitness center would be 61 feet tall at the peak of the entry parapet. The exterior of the fitness center would include cream-colored stone paneling, bronze aluminum cap flashing, and glazed and spandrel glazed windows with metal paneling. Figure 5.1-6, *Fitness Center Conceptual View,* shows the exterior elevation of the fitness center.

Figures 5.1-7a and 5.1-7b, *Sporting Goods Store Conceptual View*, show the exterior elevation of the sporting goods store. The highest point of the building would be 44 feet and 6 inches. Similar to the exterior of the rest of the retail components of the proposed project, the exterior of the sporting goods store would include brownish-gray bricks, metal-colored fascia, cream- and brown-colored paint and stucco, and a dark green paint above the front entrance where the retailer's sign would be located.

Figure 5.1-1a - Residential Building Conceptual View



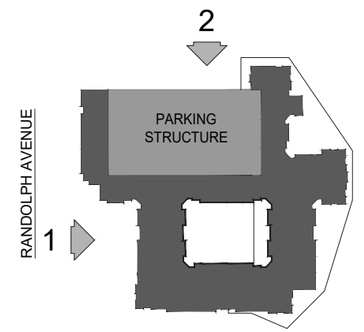
NORTH ELEVATION 2



WEST ELEVATION 1

MATERIAL / COLOR LEGEND

1	Light Sand Finish Stucco	6	Vinyl Windows
2	Architectural Panel w/ Metallic Finish	7	Metal Awning
3	Planter w/ Concrete Finish	8	Architectural Trim w/ Wood Finish
4	Glass Railing	9	Aluminum Storefront
5	Perforated Metal Panel Railing	10	Concrete Garage w/ Integral Color



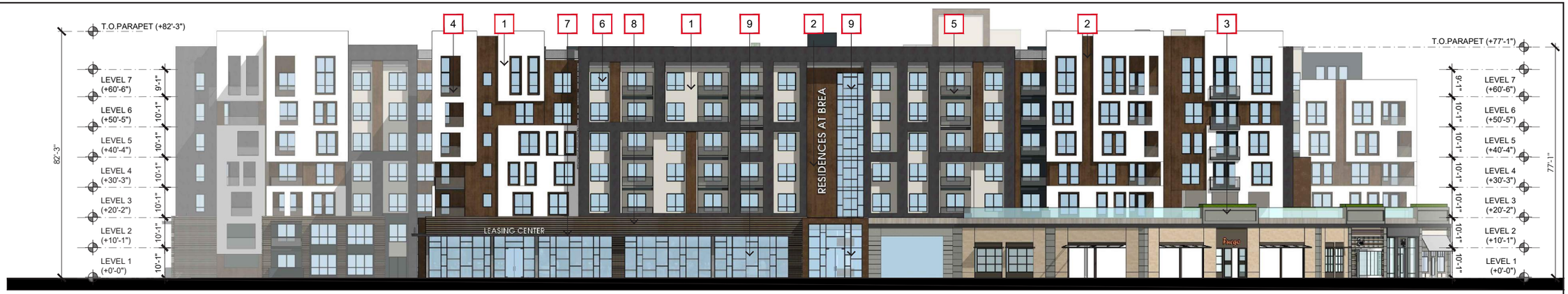
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Scale (Feet)

Source: Architects Orange, 2019

5. Environmental Analysis
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Figure 5.1-1b - Residential Building Conceptual View



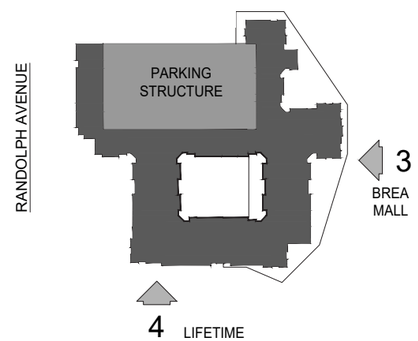
SOUTH ELEVATION 4



EAST ELEVATION 3

MATERIAL / COLOR LEGEND

1	Light Sand Finish Stucco
2	Architectural Panel w/ Metallic Finish
3	Planter w/ Concrete Finish
4	Glass Railing
5	Perforated Metal Panel Railing
6	Vinyl Windows
7	Metal Awning
8	Architectural Trim w/ Wood Finish
9	Aluminum Storefront
10	Concrete Garage w/ Integral Color



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Scale (Feet)

Source: Architects Orange, 2019

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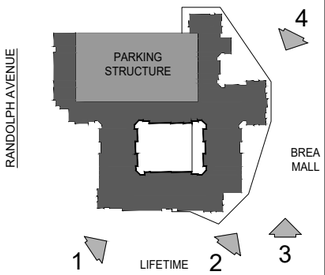
Figure 5.1-2 - Residential Building Conceptual Perspectives
5. Environmental Analysis



VIEW LOOKING SOUTH-WEST 4



VIEW LOOKING NORTH-EAST 2





VIEW LOOKING NORTH 3



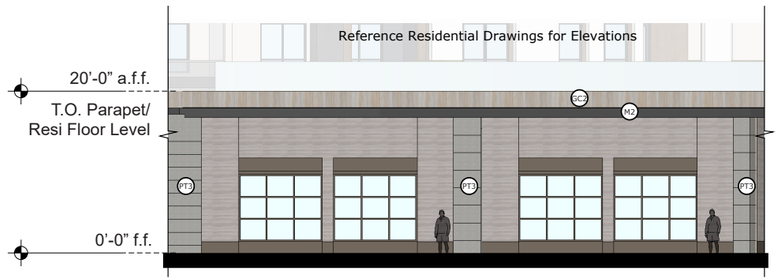
VIEW LOOKING NORTH-EAST 1

Source: Architects Orange, 2019

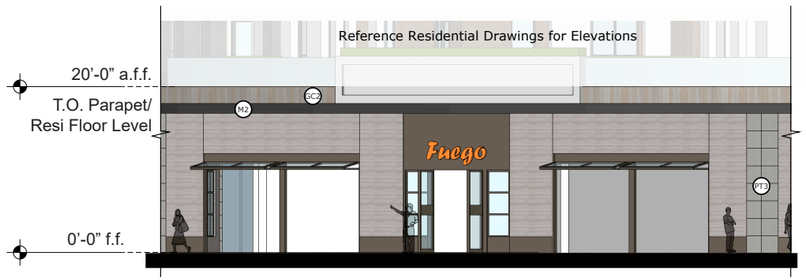
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Figure 5.1-3a - Mall Buildings Conceptual View
5. Environmental Analysis



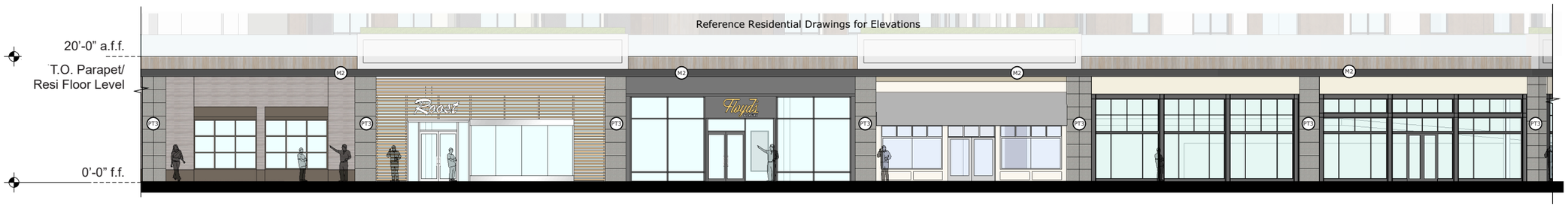
1 Enlarged TI Elevation



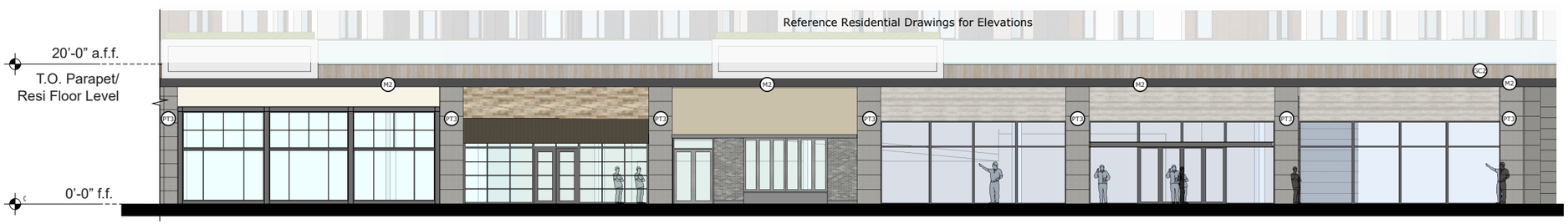
2 Enlarged TI Elevation

MATERIAL LEGEND

P1	PAINT COLOR	GC2	GFRC PANEL
P2	PAINT COLOR	PT1	PORCELAIN TILE
P3	PAINT COLOR	PT2	PORCELAIN TILE
P4	PAINT COLOR	PT3	PORCELAIN TILE
M1	METAL COLOR	WD1	WOOD-LIKE
M2	METAL COLOR	BR1	BRICK
GC1	GFRC PANEL		



3 Enlarged TI Elevation



4 Enlarged TI Elevation

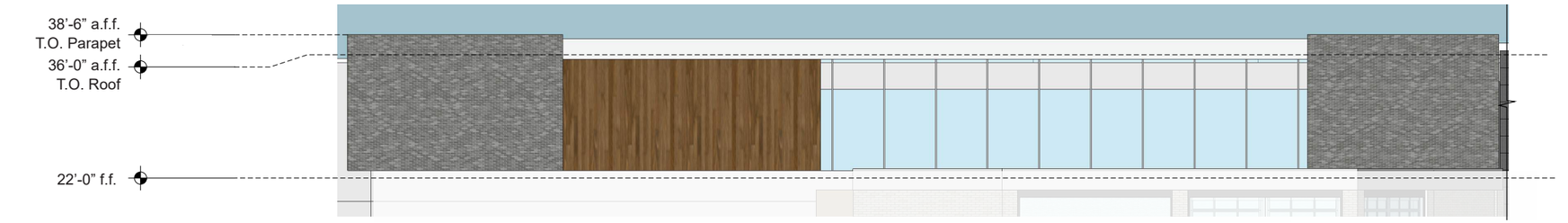
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Source: Architects Orange, 2019

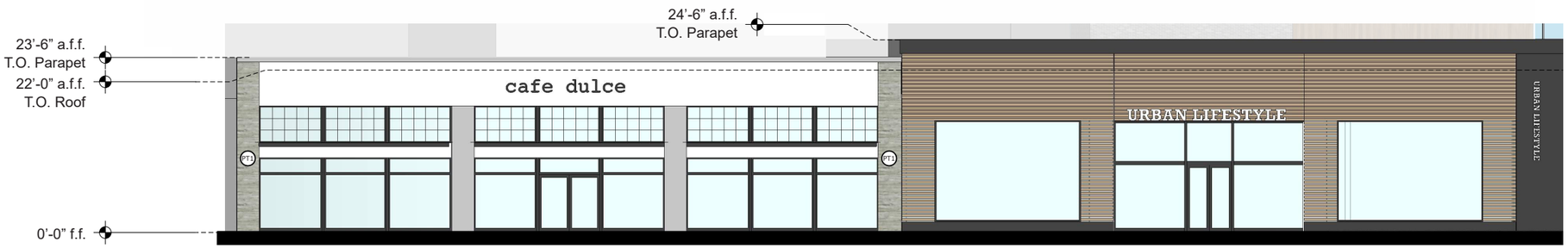
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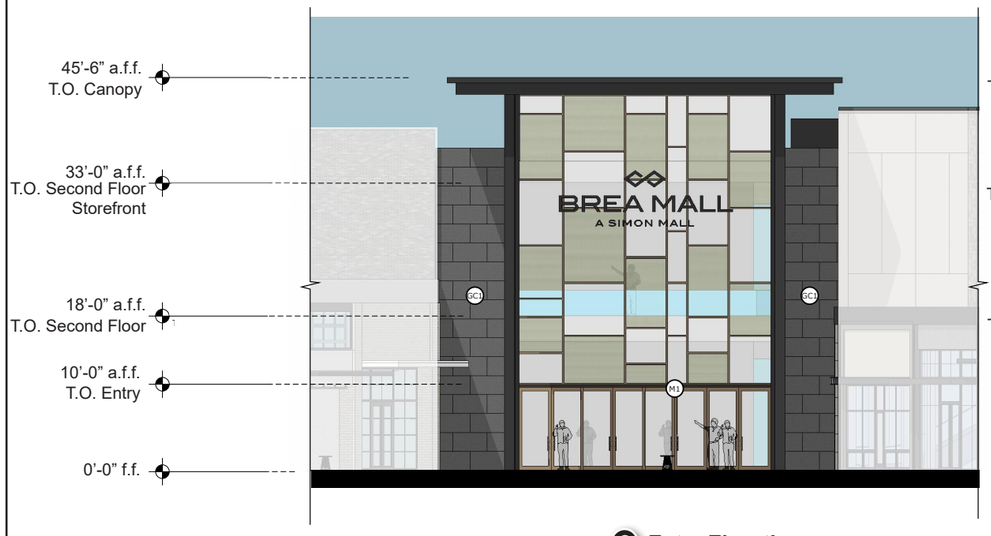
Figure 5.1-3b - Mall Buildings Conceptual View
5. Environmental Analysis



1 Retail B Upper Level Elevation



2 Retail B Lower Level Elevation



3 Entry Elevation



4 Entry Elevation

MATERIAL LEGEND

- P1 PAINT COLOR
- P2 PAINT COLOR
- P3 PAINT COLOR
- P4 PAINT COLOR
- M1 METAL COLOR
- M2 METAL COLOR
- GC1 GFRC PANEL
- GC2 GFRC PANEL
- PT1 PORCELAIN TILE
- PT2 PORCELAIN TILE
- PT3 PORCELAIN TILE
- WD1 WOOD-LIKE
- BR1 BRICK

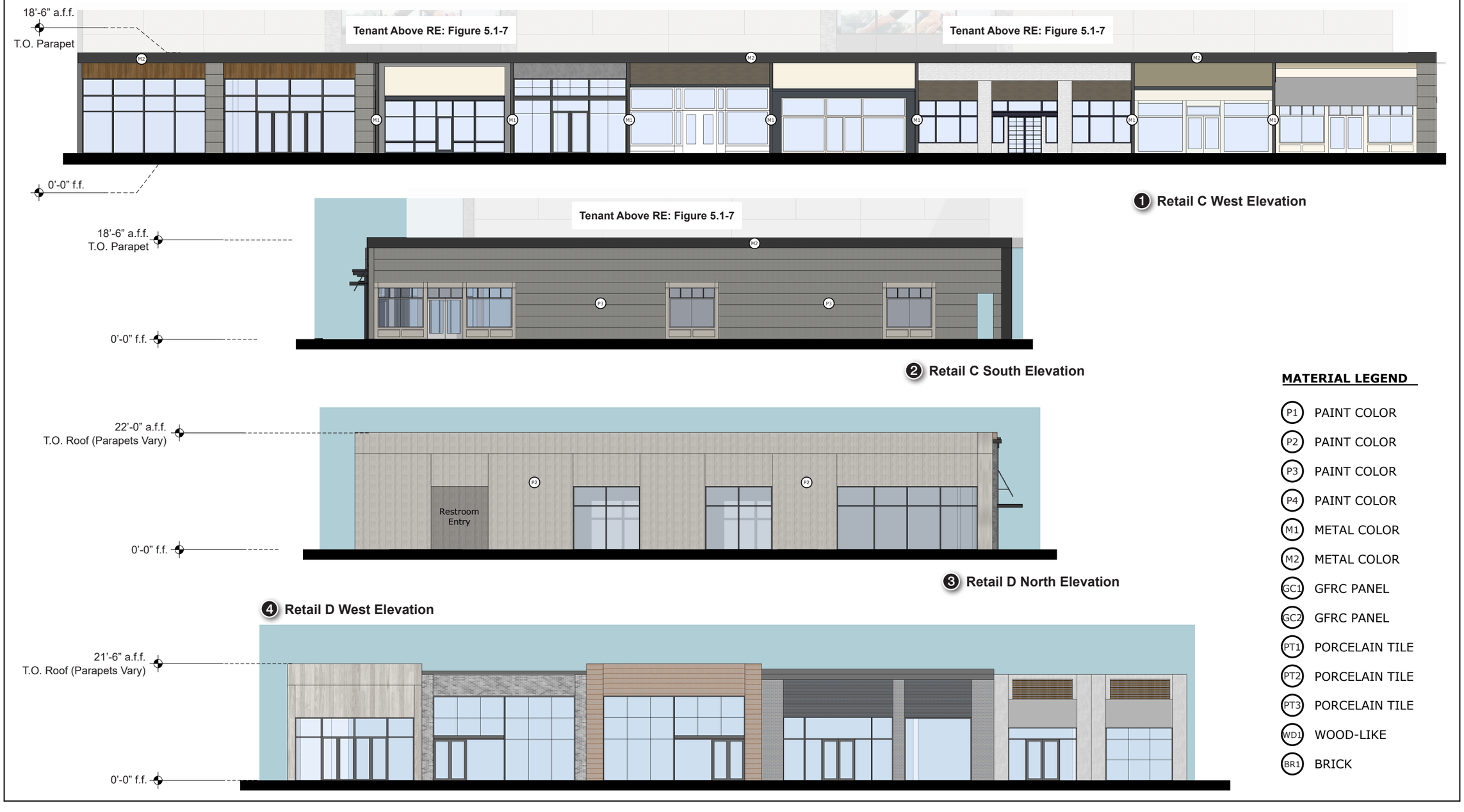
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Source: 505 Design, 2019

5. Environmental Analysis
AESTHETICS

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Figure 5.1-3c - Mall Buildings Conceptual View

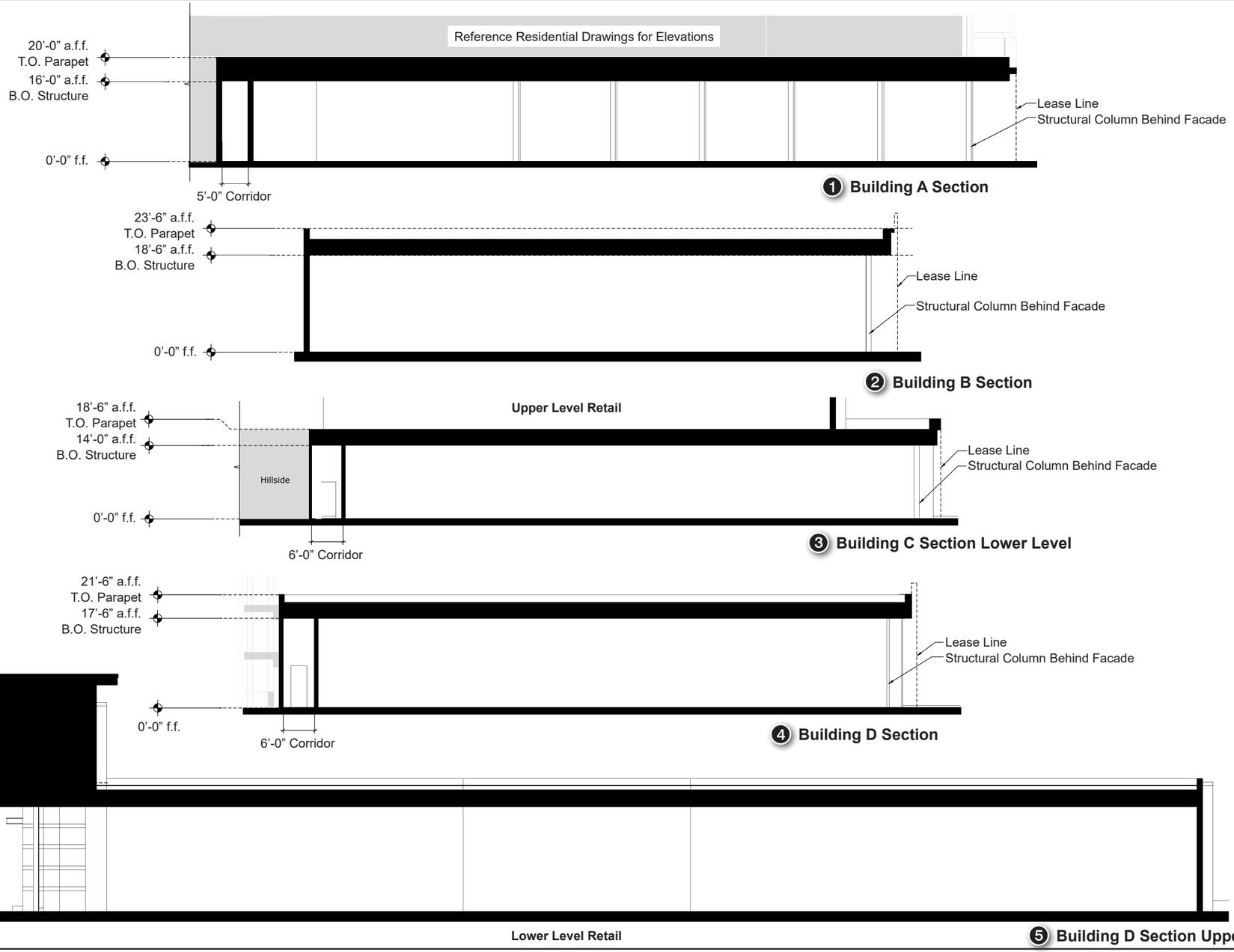


Source: Architects Orange, 2019

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Figure 5.1-4 - Conceptual Mall Buildings Cross-Section

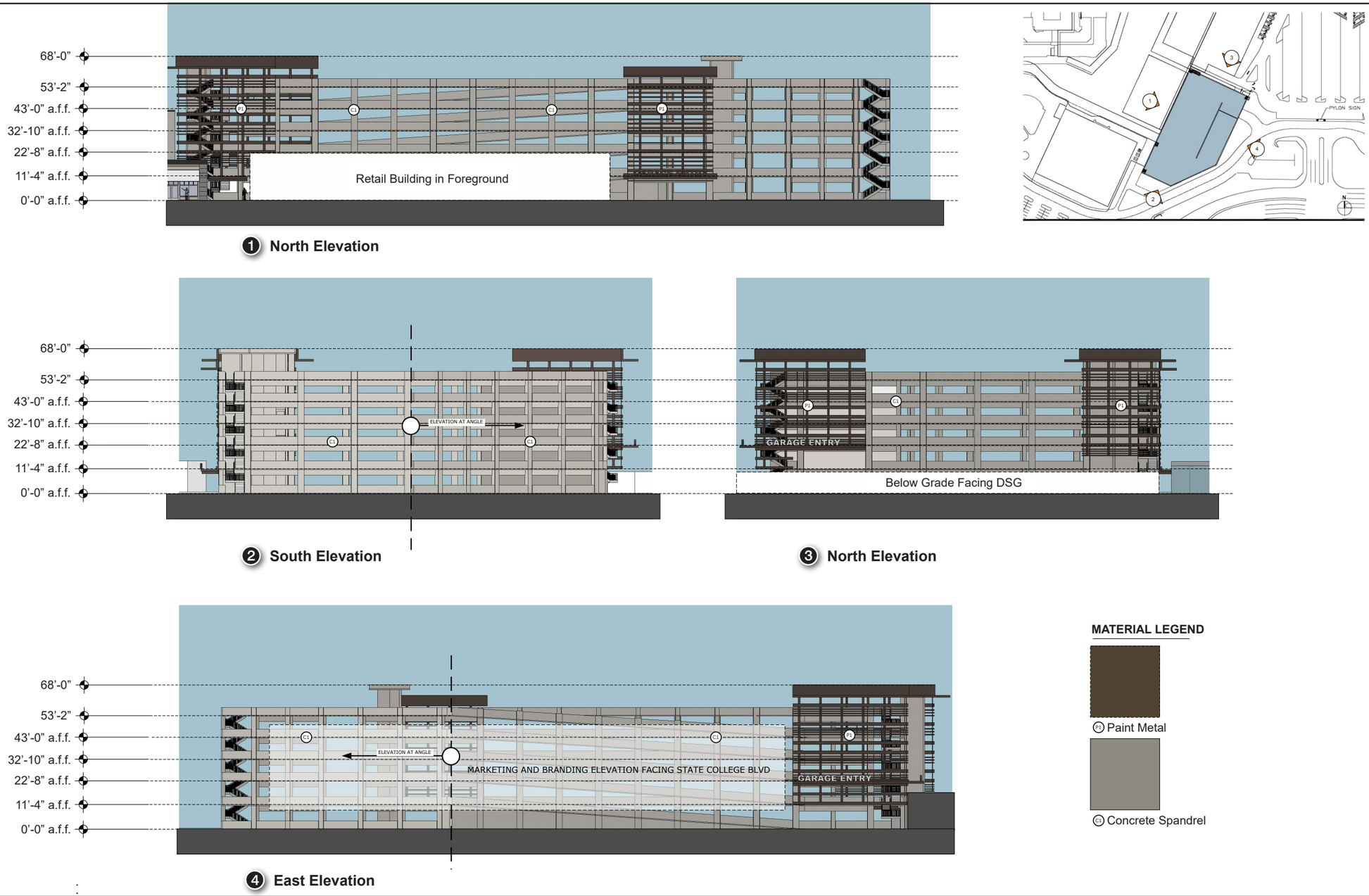


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Figure 5.1-5 - Retail Parking Structure

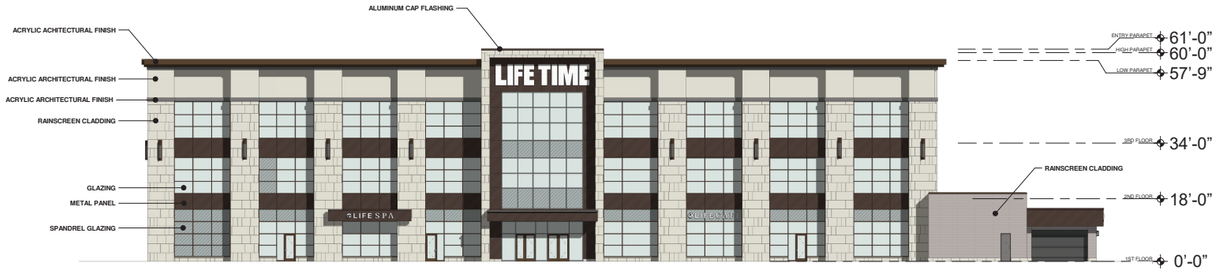


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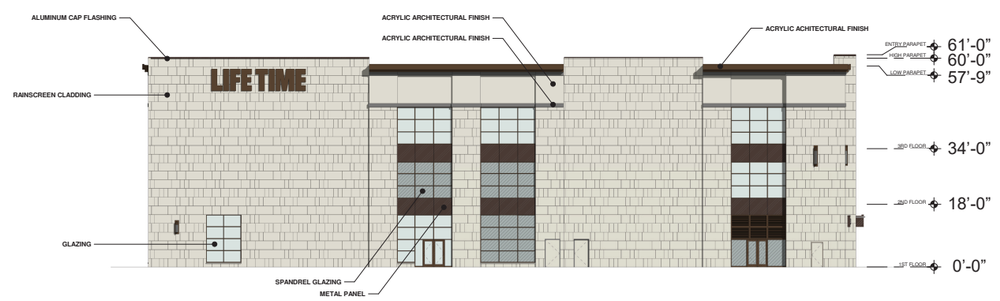
5. Environmental Analysis
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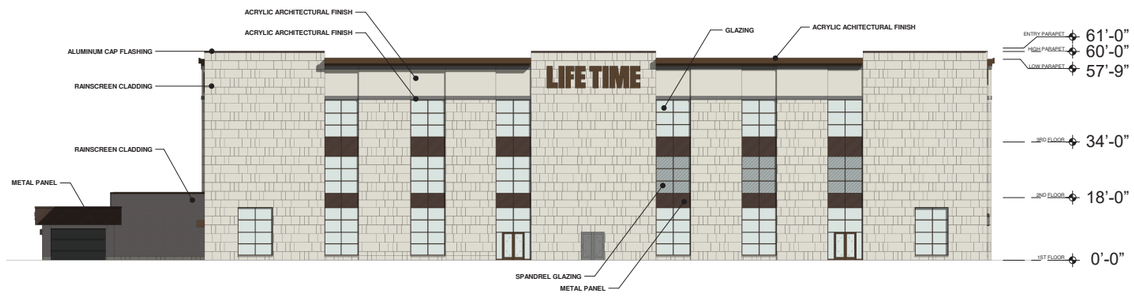
Figure 5.1-6 - Fitness Center Conceptual View



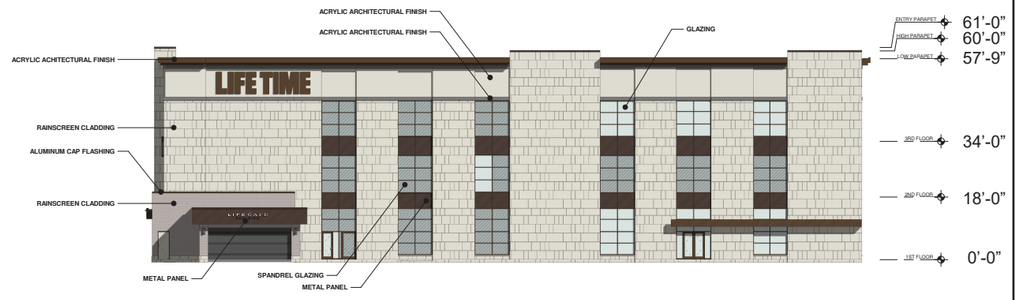
North Elevation



West Elevation



South Elevation



East Elevation

0 45
Scale (Feet)

5. Environmental Analysis
AESTHETICS

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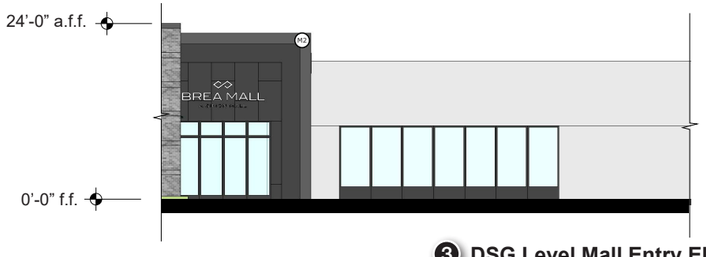
Figure 5.1-7a - Sporting Goods Store Conceptual View
5. Environmental Analysis



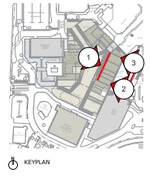
1 DSG Rear Elevation



2 DSG Front Elevation



3 DSG Level Mall Entry Elevation



MATERIAL LEGEND

- P1 PAINT COLOR
- P2 PAINT COLOR
- P3 PAINT COLOR
- P4 PAINT COLOR
- M1 METAL COLOR
- M2 METAL COLOR
- GC1 GFRC PANEL
- GC2 GFRC PANEL
- PT1 PORCELAIN TILE
- PT2 PORCELAIN TILE
- PT3 PORCELAIN TILE
- WD1 WOOD-LIKE
- BR1 BRICK

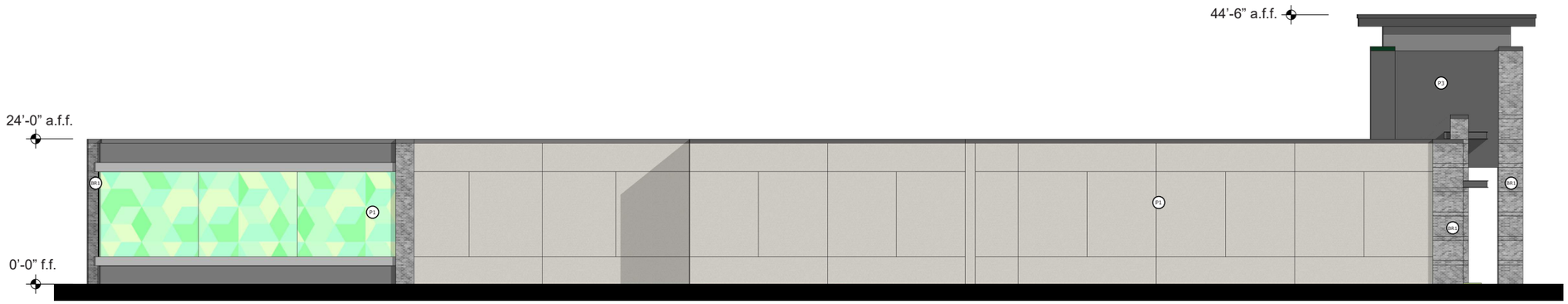
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5. Environmental Analysis
AESTHETICS

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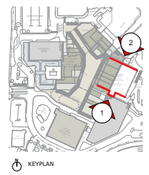
Figure 5.1-7b - Sporting Goods Store Conceptual View
5. Environmental Analysis



1 DSG Side Elevation



2 DSG Side Elevation



MATERIAL LEGEND

- P1 PAINT COLOR
- P2 PAINT COLOR
- P3 PAINT COLOR
- P4 PAINT COLOR
- M1 METAL COLOR
- M2 METAL COLOR
- GC1 GFRC PANEL
- GC2 GFRC PANEL
- PT1 PORCELAIN TILE
- PT2 PORCELAIN TILE
- PT3 PORCELAIN TILE
- WD1 WOOD-LIKE
- BR1 BRICK

0 20
Scale (Feet)

Source: 505 Design, 2019

5. Environmental Analysis
AESTHETICS

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Central Green, Plaza, and Landscaping

The proposed project would add approximately 1.5 acres of common open space area in the form of the proposed central green and 0.3 acre in the form of a plaza (see Figure 3-8). Moreover, the perimeter of the project area would include hardscape and landscape features, and vegetation would include trees, shrubs, accents, and groundcover as well as trellises, seating, art, interactive spray ground, landscaped islands with canopy trees, and a pavilion (see Figure 3-9 through Figure 3-11). The proposed project would include a total of 40,318 square feet of landscaped areas, and the residential component would include 15,600 square feet of private open space and 32,909 square feet of common open space. Compared to the existing conditions of ornamental vegetation scattered through the mall's surface parking, the proposed project would add substantial landscaping and open space areas for the public and future residents of the proposed project.

Conclusion

There are no residential land uses that currently abut the project area. Existing buildings onsite and directly abutting the Brea Mall range from one story to seven stories in height. The height, density, intensity, and character of the new development planned for the project area is not a dramatic departure from what currently exists on site and within the surrounding area. The proposed appearance and character would be consistent with development in the area and would improve the former Sears parcel. The visual appearance of existing surface parking, parking structures, and mall buildings would be complemented by the proposed residential and retail buildings, associated parking structures, and central green and plaza area. The proposed commercial and residential uses would not substantially alter the appearance and character of the project area and the surrounding vicinity, because there are commercial uses on the project area, and commercial and residential uses surrounding the project area. The proposed project would be aesthetically compatible with the adjacent land uses. Furthermore, the central green and plaza area on the project area would add visual variation and relief from the buildings onsite.

The proposed project would adhere to the development standards and design guidelines of the City of Brea Municipal Code (see PPP AES-1 through PPP AES-6) and General Plan, and the building design and materials would be subject to approval by the City of Brea. In addition, due to the distance, varying topography, and highly urbanized nature of the project area, scenic vistas would not be impacted.

Overall, aesthetic impacts would be not be adverse, and impacts relating to scenic vistas and visual appearance and character would be less than significant.

Level of Significance Before Mitigation: Impact 5.1-1 would be less than significant.

Impact 5.1-2: The proposed project would not alter scenic resources within a state scenic highway. [Threshold AE-2]

As indicated in Figure CR-4, Scenic Resources, of the City of Brea General Plan, SR-57 is 235 feet to the east of the project area and eligible for California State Scenic Highway Status, but is not officially designated a state scenic highway (Brea 2003). Development of the proposed project would occur within the project area

boundaries, and project implementation would not damage scenic resources, including trees, rock outcroppings, and historic buildings, within a state scenic highway. Therefore, no impact would occur.

Level of Significance Before Mitigation: Impact 5.1-2 would not be significant.

Impact 5.1-3: The proposed project would generate additional light and glare. [Threshold AE-4]

The two major causes of light pollution are glare and spill light. Spill light is caused by misdirected light that illuminates outside the intended area. Glare occurs when a bright object is against a dark background, such as oncoming vehicle headlights or an unshielded light bulb. Spill light and glare impacts are the effects of a project's exterior lighting upon adjoining uses and areas.

The project area and Brea Mall contains many existing sources of nighttime illumination. These include parking lot lights, vehicle lights, security lights, and exterior lighting on the existing commercial buildings. Additional onsite light and glare is caused by surrounding land uses and roadways, including SR-57 to the east and Imperial Highway to the south.

Nighttime Light and Glare

The proposed project would include additional structures on the project area and their related lighting sources; its implementation would likely also result in more exterior glazing (e.g., windows and doors) that could result in new sources of glare. Despite new and expanded sources of nighttime illumination and glare, the proposed project is not expected to generate a substantial increase in light and glare. Lighting would be directed so as not to cause light to spill outside the project area. As the proposed project would include parking structures, lights from vehicles would be limited on-site. The proposed project would adhere to the development standards and design guidelines of the City of Brea Municipal Code (see PPP AES-2 through PPP AES-4) and General Plan, which regulate lighting and signs. Additionally, the proposed perimeter landscaping and proposed buildings would block glare from parked cars and traffic from surrounding roadways and land uses. Therefore, impacts would be less than significant.

Daytime Glare

The project includes building materials and architectural treatments that could cause daytime glare, but not to such an extent that they would result in a significant impact. The development of the proposed project would produce glare sources that are typical of residential and commercial buildings, such as building material (glass and light-colored building materials), glass fences, and vehicles parked and traveling along neighboring streets. However, glare from these sources are typical of the surrounding area and would not increase glare beyond what is expected for the existing Brea Mall. Therefore, daytime glare impacts from the proposed project would be less than significant.

Level of Significance Before Mitigation: Impact 5.1-3 would be less than significant.

5.1.5 Cumulative Impacts

Aesthetic impacts are localized to the project area and its immediate surroundings. No projects are approved, planned, or anticipated for the general vicinity of the project area in the near future. As with the proposed project, cumulative projects within the project area would not substantially alter the visual character of the project area due to the highly urbanized and developed nature of the surrounding area, which include predominantly commercial and residential uses. Because of the highly developed nature of the project area and Brea Mall, the proposed project would not negatively impact the visual character on- or off-site. Similarly, due to existence of light and glare from the existing commercial uses on the project area and the commercial and residential uses surrounding the project area, the proposed project is not anticipated to add significantly to the creation of nighttime light and glare in the project vicinity. The proposed buildings on the project area would also create new sources of light and glare in the project vicinity, but such buildings would be primarily surrounded by perimeter landscaping which would reduce the impacts of light and glare. Their impacts would therefore not combine with those of the proposed project to adversely impact existing or planned sensitive receptors, such as residential uses. Therefore, the proposed project's contribution to cumulative aesthetic impacts is less than considerable, and therefore is less than cumulatively significant.

5.1.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.1.7 Mitigation Measures

No mitigation measures are required.

5.1.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.1.9 References

Brea, City of. 2003, August 2019. The City of Brea General Plan. https://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan?bidId=.

5. Environmental Analysis
AESTHETICS

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5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the Brea Mall Mixed Use Project (proposed project) to impact air quality in a local and regional context. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. Criteria air pollutant emissions modeling for the proposed project is included in Appendix B of this DEIR. Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB).

5.2.1 Environmental Setting

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005; USEPA 2018). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2018).

- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure

concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (South Coast AQMD 2005; USEPA 2018). The SoCAB is designated an attainment area for NO_2 under the National and California AAQS (CARB 2018).

- **Sulfur Dioxide** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; USEPA 2018). The SoCAB is designated attainment under the California and National AAQS (CARB 2018).

- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The US Environmental Protection Agency's (EPA) scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2013). However, the EPA and the California Air Resources Board (CARB) have not adopted AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause

environmental effects such as visibility impairment,[1] environmental damage,[2] and aesthetic damage[3] (South Coast AQMD 2005; USEPA 2018). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2018).[4]

- **Ozone**, or O_3, is a key ingredient of "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (South Coast AQMD 2005; USEPA 2018). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2018).

- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O_3, South Coast AQMD has established a significance threshold. The health effects for ozone are described above.

- **Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; USEPA 2018). The major sources of lead emissions have historically been mobile and industrial

[1] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

[2] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

[3] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

[4] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10} standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[5] As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2018). There are no lead-emitting sources associated with this project, and therefore lead is not a pollutant of concern for the proposed project.

Table 5.2-1, *Criteria Air Pollutants Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

Table 5.2-1 Criteria Air Pollutants Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	• Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO_2)	• Increased response to allergens • Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} & $PM_{2.5}$)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO_2)	• Aggravation of respiratory disease (e.g., asthma and emphysema) • Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	• Behavioral and learning disabilities in children • Nervous system impairment	Contaminated soil

Source: CARB 2009; South Coast AQMD 2005.

[5] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc. in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

Toxic Air Contaminants

People exposed to toxic air contaminants (TAC) at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2019). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the project being particulate matter from diesel-fueled engines.

In 1998, CARB identified diesel particulate matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory systems and may exacerbate existing allergies and asthma systems (USEPA 2002).

5.2.1.1 REGULATORY BACKGROUND

Ambient air quality standards have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of TACs. The proposed project is in the SoCAB and is subject to the rules and regulations imposed by the South Coast AQMD as well as the California AAQS adopted by CARB and National AAQS adopted by the EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

Federal and State

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

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The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-2, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	

Table 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. It can also be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.
Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[2] National standards (other than O_3, PM, and those based on 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 three 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/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
[3] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[4] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
[5] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions:

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.

- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California's Renewable Energy Program is the renewables portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.

- **California Code of Regulations (CCR), Title 20: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.

- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and non-residential buildings adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977.

- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[6]

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

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control

[6] The green building standards became mandatory in the 2010 edition of the code.

measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 § 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **13 CCR Chapter 10 § 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **13 CCR § 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Regional

Air Quality Management Planning

South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, South Coast AQMD adopted the 2016 AQMP, which serves as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031
- 2012 National annual $PM_{2.5}$ standard by 2025[7]
- 2006 National 24-hour $PM_{2.5}$ standard by 2019

[7] The 2016 AQMP requests a reclassification from moderate to serious nonattainment for the 2012 National $PM_{2.5}$ standard.

- 1997 National 8-hour ozone standard by 2023
- 1979 National 1-hour ozone standard by year 2022

It is projected that total NO_X emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (South Coast AQMD 2017), which requires reducing NO_X emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions to existing regulations for the 2023 ozone standard and 55 percent additional reductions to existing regulations to meet the 2031 ozone standard.

Reducing NO_X emissions would also reduce $PM_{2.5}$ concentrations in the SoCAB. However, because the goal is to meet the 2012 federal annual $PM_{2.5}$ standard no later than year 2025, South Coast AQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under this federal standard. A "moderate" nonattainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (South Coast AQMD 2017).

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

South Coast AQMD Rules and Regulations

All projects are subject to South Coast AQMD rules and regulations in effect at the time of activity, including:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the US Bureau of Mines.

- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from

discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. In general, the rule prohibits new developments from the installation of wood-burning devices.

- **Rule 445, Wood Burning Devices.** This rule is intended to reduce the emission of particulate matter from wood-burning devices and applies to manufacturers and sellers of wood-burning devices, commercial sellers of firewood, and property owners and tenants that operate a wood-burning device.

- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the South Coast AQMD must comply with the current VOC standards set in this rule.

- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

5.2.1.2 EXISTING CONDITIONS

South Coast Air Basin

The project area is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

Meteorology

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project area that best represents the climatological conditions of the project area is the Yorba Linda, California Monitoring Station (ID 049847). The average low is reported at 41.7°F in January, and the average high is 88.4°F in August (WRCC 2019).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through May. Rainfall averages 12.52 inches per year in the vicinity of the project area (WRCC 2019).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, especially along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (South Coast AQMD 1993).

Wind

Wind patterns across the southern coastal region are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The

height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.2-3, *Attainment Status of Criteria Air Pollutants in the South Coast Air Basin*.

Table 5.2-3 Attainment Status of Criteria Air Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2018.
[1] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Multiple Air Toxics Exposure Study IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In 2008, South Coast AQMD conducted its third update, MATES III, based on the Office of Environmental Health Hazards Assessment's (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (South Coast AQMD 2008a).

South Coast AQMD recently released the fourth update, MATES IV, which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basin-wide population-weighted risk decreased by approximately 57 percent since MATES III (South Coast AQMD 2015a).

OEHHA updated the guidelines for estimating cancer risks on March 6, 2015 (OEHHA 2015). The new method uses higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined, South Coast AQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher than the risk identified in MATES IV using the 2015 OEHHA guidance methodology (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (South Coast AQMD 2015a).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area are best documented by measurements taken by the South Coast AQMD. The proposed project is located within Source Receptor Area (SRA) 16 – North Orange County.[8] The air quality monitoring station closest to the proposed project is the La Habra Monitoring Station, approximately 3.67 miles to the northwest of the project area, which is one of 31 monitoring stations South Coast AQMD operates and maintains within the SoCAB.[9] This station monitors one-hour and eight-hour O_3 and NO_2. Data for PM_{10} and $PM_{2.5}$ is supplemented by the Anaheim-Pampas Lane Monitoring Station. Data from this station are summarized in

[8] Per SCAQMD Rule 701, an SRA is defined as follows: "A source area is that area in which contaminants are discharged and a receptor area is that area in which the contaminants accumulate and are measured. Any of the areas can be a source area, a receptor area, or both a source and receptor area." There are 37 SRAs within the SCAQMD's jurisdiction.

[9] Locations of the SRAs and monitoring stations are shown here: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf.

Table 5.2-4, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeds the state and federal one-hour and eight-hour O_3 standards within the last five recorded years. Additionally, the area has regularly exceeded the state PM_{10} standards and the federal $PM_{2.5}$ standard.

Table 5.2-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels[1]				
	2014	2015	2016	2017	2018
Ozone (O_3) [1]					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	5	4	3	5	3
State 8-hour ≥ 0.07 ppm (days exceed threshold)	6	7	6	12	4
Federal 8-Hour > 0.075 ppm (days exceed threshold)	2	2	3	8	3
Max. 1-Hour Conc. (ppm)	0.119	0.103	0.103	0.113	0.111
Max. 8-Hour Conc. (ppm)	0.088	0.082	0.078	0.086	0.077
Nitrogen Dioxide (NO_2) [1]					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.084	0.058	0.060	0.076	0.067
Coarse Particulates (PM_{10}) [2]					
State 24-Hour > 50 µg/m^3 (days exceed threshold)	2	2	3	5	2
Federal 24-Hour > 150 µg/m^3 (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m^3)	85.0	59.0	74.0	95.7	94.6
Fine Particulates ($PM_{2.5}$) [2]					
Federal 24-Hour > 35 µg/m^3 (days exceed threshold)	4	3	1	7	7
Max. 24-Hour Conc. (µg/m^3)	45.0	45.8	44.4	53.9	63.1

Source: CARB 2019b.
ppm: parts per million; parts per billion, µg/m^3: micrograms per cubic meter
[1] Data obtained from the La Habra Monitoring Station.
[2] Data obtained from the Anaheim-Pampas Lane Monitoring Station.

Existing Emissions

Table 5.2-5, *Brea Mall Existing Criteria Air Pollutant Emissions*, summarizes existing emissions associated with the daily operations of Brea Mall. The existing mall currently generates criteria air pollutant emissions from natural gas use for energy, heating and cooking, vehicle trips associated with employees, vendors, and visitors to the Brea Mall, and area sources such as landscaping equipment and consumer cleaning products.

Table 5.2-5 Brea Mall Existing Criteria Air Pollutant Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	27	<1	<1	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Mobile[1]	58	240	799	3	288	79
Total	**85**	**241**	**800**	**3**	**288**	**79**

Source: CalEEMod Version 2016.3.2.
Notes: Based on highest winter or summer emissions.
[1] Based on buildout year 2019 emission factors. Approximately 30,817 average daily trips are assumed for weekdays, 39,183 for Saturday, and 24,526 for Sunday.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population. For the air quality purposes, the nearest off-site sensitive receptors to the project area include employees of Brea Mall and surrounding commercial and institutional uses, Craig Regional Park to the south (720 feet), the Maplewood Apartment Homes to the southwest (850 feet), and residences to the west along Pine Avenue (550 feet).

5.2.2 Thresholds of Significance

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

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

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

AQ-3 Expose sensitive receptors to substantial pollutant concentrations.

AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

CEQA allows the significance criteria established by the applicable air quality management district or air pollution control district to be used to assess impacts of a project on air quality. The South Coast AQMD has established thresholds of significance for air quality for construction activities and project operation, as shown below.

Regional Significance Thresholds

South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.2-6, *South Coast AQMD Significance*

Thresholds. The table lists thresholds that are applicable for all projects regardless of size or scope. There is growing evidence that although ultrafine particulate matter contributes a very small portion of the overall atmospheric mass concentration, it represents a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate ultrafine particulate matter; therefore, South Coast AQMD has not developed thresholds for them.

Table 5.2-6 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROG)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM10)	150 lbs/day	150 lbs/day

Source: South Coast AQMD 2019.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Contributes to lower birth weight in newborns ($PM_{2.5}$) (South Coast AQMD 2015b)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015c).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions in Table 5.2-5 are not correlated with concentrations of air pollutants but contribute to the cumulative air

quality impacts in the SoCAB. The thresholds are based on the trigger levels for the federal New Source Review (NSR) Program. The NSR Program was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 5.2-5 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 5.2-5, emissions would cumulatively contribute to the nonattainment status and would contribute in elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 5.2-5, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, Case No. S21978 (*Friant Ranch*). Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon

periods.[10] As identified in South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in years before redesignation were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017).[11]

Localized Significance Thresholds

South Coast AQMD identifies localized significance thresholds (LST), shown in Table 5.2-7, *South Coast AQMD Localized Significance Thresholds*. Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. (Off-site mobile-source emissions are not included in the LST analysis.) A project would generate a significant impact if it generates emissions that, when added to the local background concentrations, violate the AAQS.

Table 5.2-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3
Annual Average PM_{10} Standard (South Coast AQMD)[1]	1.0 µg/m^3

Source: South Coast AQMD 2015b.
ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (pounds per day) of emissions generated on-site that would trigger the levels shown in Table 5.2-7

[10] The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

[11] The CO hotspot analysis refers to the modeling conducted by the Bay Area Air Quality Management District for its CEQA Guidelines because it is based on newer data and considers the improvement in mobile-source CO emissions. Although meteorological conditions in the Bay Area differ from those in Southern California, the modeling by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantial. This finding is consistent with the CO hotspot analysis SCAQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by SCAQMD, no CO hotspots were predicted for the SoCAB. As noted in the preceding footnote, the analysis included some of Los Angeles' busiest intersections, with daily traffic volumes of 100,000 or more peak hour vehicle trips operating at LOS E and F.

for projects under five acres. These "screening-level" LST tables are the localized significance thresholds for all projects of five acres and less and are based on emissions over an 8-hour period; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required.

The screening-level LSTs in SRA 16 are shown in Table 5.2-8, *South Coast AQMD Screening-Level Localized Significance Thresholds*. For construction activities, LSTs are based on the acreage disturbed per day based on equipment use (South Coast AQMD 2011) up to the project area acreage. These LSTs reflect the thresholds for non-sensitive receptors who would be onsite less than 24-hours per day (e.g., employees, hotel guests, park visitors, church parishioners), which are within 82 feet (25 meters) for NOx and CO; and sensitive receptors who could potentially be onsite for up to 24-hours per day (e.g., residential uses), which are at 550 feet (168 meters) for PM_{10} and $PM_{2.5}$.

Table 5.2-8 South Coast AQMD Screening-Level Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day)			
	Nitrogen Oxides (NO_X)[1]	Carbon Monoxide (CO)[1]	Coarse Particulates (PM_{10})[2]	Fine Particulates ($PM_{2.5}$)[2]
Construction				
≤1.00 Acre Disturbed Per Day	103	522	44	17
1.50 Acres Disturbed Per Day	125	642	47	18
2.00 Acres Disturbed Per Day	147	762	51	20
2.50 Acres Disturbed Per Day	159	853	54	21
3.00 Acres Disturbed Per Day	172	945	57	22
3.50 Acres Disturbed Per Day	184	1,036	60	24
≥5.00 Acres Disturbed Per Day	221	1,311	69	28

Source: South Coast AQMD 2008b, 2011. Based on receptors in SRA 16.
[1] LSTs are based on nonsensitive receptors within 82 feet (25 meters).
[2] LSTs are based on sensitive receptors within 550 feet (168 meters).

Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 5.2-9, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). However, the environmental document must analyze the impacts of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 5.2-9 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: South Coast AQMD 2019.

5.2.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP AIR-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building and Energy Efficiency Standards were effective starting on January 1, 2017, and the 2019 Building and Energy Efficiency Standards will become effective January 1, 2020. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and nonresidential buildings by 2030.

PPP AIR-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new nonresidential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2).

PPP AIR-3 Construction activities will be conducted in compliance with California Code of Regulations Title 13, Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

PPP AIR-4 Construction activities will be conducted in compliance with any applicable South Coast Air Quality Management District rules and regulations, including but not limited to the following:

- Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
- Rule 402, Nuisance, which states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."
- Rule 1113, which limits the volatile organic compound content of architectural coatings.

5.2.4 Environmental Impacts

5.2.4.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. South Coast AQMD's *CEQA Air Quality Handbook* (Handbook) and updates on its website are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs, and they were used in this analysis.

Air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. Construction criteria air pollutant emissions modeling is included in Appendix B of this Draft EIR. The calculated emissions of the project are compared to thresholds of significance for individual projects using South Coast AQMD's Handbook. Following is a summary of the assumptions used for the proposed project analysis.

Construction Phase

Construction would entail demolition of existing asphalt, site preparation, grading, off-site hauling of demolition debris and earthwork material, construction of the proposed structures and buildings, architectural coating, and asphalt paving on up to 17.50 acres of the 74-acre Brea Mall. The proposed project is anticipated to be constructed over an approximately 25-month period from summer 2020 to summer 2022. Construction air pollutant emissions are based on the preliminary information provided by the developer and identified in Table 3-5, *Construction Phasing*.

Operational Phase

- **Transportation.** The average daily trip generation for weekday, Saturday, and Sunday trips was provided by LLG (see Appendix I). Project-related on-road criteria air pollutant emissions are based on year 2019 emission rates for existing conditions and 2022 emission rates for the project buildout year. The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). Additionally, for criteria air pollutants, brake and tire wear along with fugitive dust created from vehicles traveling roadways also generate particulate matter.

- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and VOC emissions from paints are based on CalEEMod default values and the square footage of the proposed buildings and surface parking lot areas.

- **Energy.** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage for residential and nonresidential land uses. New

buildings are modeled to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for nonresidential buildings than the 2016 Building Energy Efficiency Standards. Criteria air pollutant emissions from energy use are associated with natural gas used for heating.

5.2.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: The proposed project is consistent with the applicable air quality management plan. [Threshold AQ-1].

A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The regional emissions inventory for the SoCAB is compiled by South Coast AQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into SCAG's regional transportation plan/sustainable communities strategy to determine priority transportation projects and vehicle miles traveled in the SCAG region. The AQMP strategy is based on projections from local general plans.

Changes in population, housing, or employment growth projections have the potential to affect SCAG's demographic projections and therefore the assumptions in South Coast AQMD's AQMP. The project would result in 312 residential units and a net increase of 149,625 square feet of retail uses, resulting in up to 213 employees. As discussed in Section 5.9, *Population and Housing*, the proposed project's population and employment growth would be within SCAG's forecast growth projections for the City. Additionally, the project would address the need for additional housing to accommodate population growth in the City.

Finally, the long-term emissions generated by the proposed project would not produce criteria air pollutants that exceed the South Coast AQMD significance thresholds for project operations (see Impact 5.2-3). South Coast AQMD's significance thresholds identify whether or not a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Because the project would not exceed the South Coast AQMD's regional significance thresholds and growth is consistent with regional growth projections, the project would not interfere with South Coast AQMD's ability to achieve the long-term air quality goals identified in the AQMP.

Therefore, the proposed project would be consistent with the AQMP and impacts would be less than significant.

Level of Significance Before Mitigation: Less than Significant.

Impact 5.2-2: Construction activities associated with the proposed project would generate short-term emissions that exceed South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

Construction activities produce combustion emissions from various sources, such as onsite heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from demolition and soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities onsite would vary daily as construction activity levels change. An estimate of maximum daily construction emissions by year for the proposed project is provided in Table 5.2-10, *Maximum Daily Regional Construction Emissions*. Maximum daily regional construction emissions by overlapping construction phase may be found in Appendix B.

Table 5.2-10 Maximum Daily Regional Construction Emissions

Construction Phase	Pollutants (lb/day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2020 Maximum Daily Emissions	15	**215**	108	<1	15	7
Year 2021 Maximum Daily Emissions	14	147	95	<1	11	6
Year 2022 Maximum Daily Emissions	57	11	14	<1	2	1
Maximum Daily Construction Emissions						
Maximum Daily Emissions	57	215	108	2	15	7
South Coast AQMD Regional Construction Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	**Yes**	No	No	No	No

Source: CalEEMod Version 2016.3.2.
Emissions totals may not equal 100 percent due to rounding.
1 Based on the preliminary information provided by the Applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.
2 Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS,[12] and nonattainment for lead (Los Angeles County only) under the National AAQS. According to South Coast AQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (South Coast AQMD 1993). As shown in Table 5.2-10, the maximum daily emissions for CO, SO_2, PM_{10}, and $PM_{2.5}$ from construction-related activities would be less than their respective South Coast AQMD regional significance threshold values. However, the construction-related NOx emissions generated from all construction phases that include site preparation and soil haul would exceed the South Coast AQMD regional significance threshold for NOx. Consequently, construction of the proposed project could potentially

[12] Portions of the SoCAB along SR-60 in Los Angeles, Riverside, and San Bernardino counties are proposed nonattainment for NO_2 under the California AAQS.

contribute to the nonattainment designations of the SoCAB in the absence of mitigation. Impacts would be potentially significant.

Level of Significance Before Mitigation: Potentially Significant.

Impact 5.2-3: Long-term operation of the project would not generate additional vehicle trips and associated emissions in exceedance of South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

Regional Operational Emissions

Buildout of the proposed project would generate an increase in criteria air pollutant emissions from transportation (i.e., vehicle trips), area sources (e.g., landscaping equipment, architectural coating), and energy (i.e., natural gas used for heating and cooking). As shown in Table 5.2-11, *Brea Mall Mixed Use Project Regional Operation Emissions*, the net change in maximum daily emissions from operation-related activities would be less than their respective South Coast AQMD regional significance threshold values. Therefore, impacts to the regional air quality associated with operation of the project would be less than significant

Table 5.2-11 Brea Mall Mixed Use Project Regional Operation Emissions

Source	Maximum Daily Emissions (lbs/Day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Existing Brea Mall						
Area	27	<1	<1	<1	<1	<1
Energy[1]	<1	1	1	<1	<1	<1
Mobile[2]	58	240	799	3	288	79
Total	**85**	**241**	**800**	**3**	**288**	**79**
Proposed Brea Mall						
Area	43	<1	26	<1	<1	<1
Energy[1]	<1	2	1	<1	<1	<1
Mobile[2]	65	267	888	3	321	87
Total	**107**	**269**	**915**	**3**	**321**	**88**
Net Change (Proposed Project)						
Area	16	<1	26	<1	<1	<1
Energy[1]	<1	1	1	<1	<1	<1
Mobile[2]	6	27	89	<1	32	9
Total Net Change	**22**	**28**	**116**	**<1**	**33**	**9**
South Coast AQMD Regional Threshold	**55**	**55**	**550**	**150**	**150**	**550**
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2. Highest winter or summer emissions are reported.
Notes: lbs: Pounds.
[1] The default historic electricity and natural gas rates in CalEEMod were used for the existing Brea Mall buildings that would remain and new structures that would be constructed to achieve the 2019 Building and Energy Efficiency Standards were based on the .
[2] Based on 2022 emission rates.

Overlap of Construction and Operational Phase

The South Coast AQMD does not have a significance threshold for construction/operation overlap; therefore, this analysis is included for informational purposes only. Table 5.2-12, *Potential Overlap of Construction and Operational Activities*, shows the maximum daily emissions during an approximately eight-month period where project-related construction and operation activities overlap. Based on the development timeline for the proposed project, it is anticipated that occupancy of the commercial and residential buildings would occur in January 2022, and buildout of the lifestyle fitness center would not be complete until August 2022. For purposes of this discussion, the maximum daily combined emissions shown in the table represent a conservative scenario because the maximum daily operational emissions are based on full buildout of the project. In reality, if project-related construction and operation activities were to overlap, only a proportion of the proposed project would be operational while the rest is constructed.

Table 5.2-12 Potential Overlap of Construction and Operational Activities

Source	Maximum Daily Emissions (lbs/day)[1]					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2022 Construction Peak Emissions	57	11	14	<1	2	1
Year 2022 Net Change in Operational Emissions	22	28	116	<1	33	9
Maximum Daily Combined Emissions	79	39	130	<1	35	10

Source: CalEEMod Version 2016.3.2. Highest winter or summer emissions are reported.
Notes: lbs: Pounds.
[1] The maximum daily operational emissions are based on full buildout. Therefore, the maximum daily combined emissions represent a conservative scenario because in practice, only a proportion of the allowable land use space would be operating while the rest of the proposed project is constructed and fully built out.

Level of Significance Before Mitigation: Regional operational emissions are Less than Significant.

Impact 5.2-4: Construction activities associated with the proposed project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

This impact analysis describes changes in localized impacts from short-term construction activities. The proposed project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of emissions shown in the regional emissions analysis in Table 5.2-10, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Construction-Phase LSTs

Screening-level LSTs (pounds per day) are the amount of project-related mass emissions at which localized concentrations (ppm or $\mu g/m^3$) could exceed the AAQS for criteria air pollutants for which the SoCAB is designated nonattainment. The screening-level LSTs are based on the project area size and distance to the nearest sensitive receptor and are based on the California AAQS, which are the most stringent AAQS, established to protect sensitive receptors most susceptible to respiratory distress. Table 5.2-13, *Construction*

Emissions Compared to the Screening-Level LSTs, shows the maximum daily construction emissions (pounds per day) generated during onsite construction activities at the project area compared with the South Coast AQMD's screening-level LSTs thresholds. Onsite emissions include fugitive dust emissions and exhaust emissions associated with operation of off-road construction equipment in addition to fugitive dust from the movement of dirt. As shown in the table, the maximum daily NO_x, CO, PM_{10}, and $PM_{2.5}$ construction emissions from onsite construction-related activities would be less than their respective South Coast AQMD screening-level LSTs. Consequently, construction activities would not expose sensitive receptors to substantial concentrations of air pollutants.

Table 5.2-13 Construction Emissions Compared to the Screening-Level LSTs

	Pollutants(lbs/day)[1]			
	NO_x	**CO**	**PM_{10}[2]**	**$PM_{2.5}$[2]**
South Coast AQMD ≤1.00 -acre LST	103	522	44	17
Building Demolition/Haul	15	13	1	1
Building Demolition/Haul, Utility Trenching	17	15	1	1
Building Demolition/Haul, Asphalt Demolition, Utility Trenching	19	18	1	1
Mall Shops/Fitness Center Construction	15	13	1	1
Fitness Center Construction, Retail Architectural Coating	11	11	1	1
Retail Architectural Coating	4	5	<1	<1
Exceeds LST?	No	No	No	No
South Coast AQMD 1.50-Acre LSTs	125	642	47	18
Mall Shops/Sporting Goods/Fitness Center Construction	22	19	1	1
Exceeds LST?	No	No	No	No
South Coast AQMD 2.00-Acre LSTs	147	762	51	20
Utility Trenching, Mall Podium/Mall Shops/Residential Podium Construction	29	25	2	1
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction	34	27	1	1
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction, Residential Architectural Coating	33	28	1	1
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction, Residential Architectural Coating (2021)	36	29	2	1
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction, Residential Architectural Coating (2022)	33	28	1	1
Exceeds LST?	No	No	No	No
South Coast AQMD 2.50-Acre LSTs	159	853	54	21
Utility Trenching, Mall Podium/Mall Shops/Residential Podium/Residential Housing Construction	37	32	2	2
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction, Residential Architectural Coating, Hardscape/Landscape	43	32	2	2
Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction, Residential Architectural Coating, Paving	6	6	<1	<1

Table 5.2-13 Construction Emissions Compared to the Screening-Level LSTs

	Pollutants(lbs/day)[1]			
	NO_X	**CO**	**PM_{10}[2]**	**$PM_{2.5}$[2]**
Exceeds LST?	No	No	No	No
South Coast AQMD 3.00-Acre LSTs	172	945	57	22
Utility Trenching, Mall Podium/Mall Shops/Residential Podium/Residential Housing/Sporting Goods Construction	46	39	2	2
Mall Podium/Mall Shops/Residential Podium/Residential Housing/Sporting Goods Construction	44	36	2	2
Mall Podium/Mall Shops/Residential Housing/Sporting Goods/Fitness Center Construction	44	36	2	2
Exceeds LST?	No	No	No	No
South Coast AQMD 3.50-Acre LSTs	184	1,036	60	24
Mall Podium/Mall Shops/Residential Podium/Residential Housing/Sporting Goods/Fitness Center Construction	52	43	3	2
Exceeds LST?	No	No	No	No
South Coast AQMD 5.00-Acre LSTs	221	1,311	69	28
Building Demolition/Haul, Site Preparation, Utility Trenching	145	86	10	6
Building Demolition/Haul, Asphalt Demolition, Site Preparation, Utility Trenching	147	89	10	6
Building Demolition/Haul, Asphalt Demolition/Haul, Site Preparation/Haul, Utility Trenching	147	89	10	6
Building Demolition/Haul, Asphalt Demolition/Haul, Site Preparation, Utility Trenching	147	89	10	6
Building Demolition/Haul, Site Preparation, Utility Trenching, Mall Podium Construction	156	96	11	6
Site Preparation, Utility Trenching, Mall Podium Construction (2020)	141	83	10	6
Site Preparation, Utility Trenching, Mall Podium Construction (2021)	129	79	10	5
Site Preparation, Utility Trenching, Mall Podium/Mall Shops Construction	138	86	10	6
Site Preparation, Utility Trenching, Mall Podium/Mall Shops/Residential Podium Construction	146	92	10	6
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2016.3.2., and South Coast AQMD 2008b and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project area are included in the analysis. LSTs are based on non-sensitive receptors within 82 feet (25 meters) for NO_x and CO; and sensitive receptors within 550 feet (168 meters) of the project area for PM10 and PM2.5 in Source Receptor Area (SRA) 26.

1 Based on information provided or verified by the City. Where specific information regarding project-related construction activities or processes was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by the South Coast AQMD.

2 Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Construction Health Risk

The Office of Environmental Health Hazards Assessment issued updated guidance for the preparation of health risk assessments in March 2015 (OEHHA 2015). It has also developed a cancer risk factor and noncancer chronic reference exposure level for DPM based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM. South Coast AQMD currently does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. Emissions from construction equipment primarily consist of DPM. The project is anticipated to be developed in approximately 25 months, which would limit the exposure of onsite and offsite receptors. Based on guidance from South Coast AQMD, construction risk is extrapolated based on the LST analysis. As described above, construction activities would not exceed the screening-level construction LSTs. For the reasons stated above, it is anticipated that construction emissions would not pose a threat to onsite and offsite receptors, and project-related construction health impacts would be less than significant.

Level of Significance Before Mitigation: Less than Significant.

Impact 5.2-5: Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3].

This impact analysis describes changes in localized impacts from long-term operation of the project. The proposed project could expose sensitive receptors to elevated pollutant concentrations during operational activities if it would cause or contribute significantly to elevated levels. Unlike the mass of emissions shown in the regional emissions analysis in Table 5.2-11, which is described in pounds per day localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Operational Phase LSTs

Operation of the proposed project would not generate substantial quantities of emissions from onsite, stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions require a permit from South Coast AQMD, such as chemical processing or warehousing operations where substantial truck idling could occur onsite. The proposed project does not fall within these categories of uses. While operation of the proposed project could result in the use of standard onsite mechanical equipment such as heating, ventilation, and air conditioning units in addition to occasional use of landscaping equipment for project area maintenance, air pollutant emissions generated would be small. Therefore, net localized air quality impacts from project-related operations would be less than significant.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because

vehicles queue for longer periods and are subject to reduced speeds. The SoCAB has been designated as attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2017). The proposed project would generate a maximum of 1,840 PM peak hour trips on weekdays and 2,358 PM peak hour trips on weekends (LLG 2020). Implementation of the project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project area.

Level of Significance Before Mitigation: Less than Significant.

Impact 5.2-6: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. [Threshold AQ-4]

The threshold for odor is if a project creates an odor nuisance pursuant to South Coast AQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

The proposed project would develop and operate retail (including restaurants) and residential structures, which would not fall within the types of uses that are associated with foul odors that constitute a public nuisance. During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. However, construction-related odor emissions would be temporary and intermittent and would not affect a significant number or people.

Level of Significance before Mitigation: Less than Significant.

5.2.5 Cumulative Impacts

In accordance with South Coast AQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Consistent with the methodology, projects that do not exceed the regional significance thresholds would not result in significant cumulative impacts. Cumulative projects in the local area include new development and general growth in the proposed project area. The greatest source of emissions in the SoCAB is mobile sources. Due

to the extent of the area potentially impacted by cumulative emissions (i.e., the SoCAB), South Coast AQMD considers a project cumulatively significant when project-related emissions exceed the South Coast AQMD regional emissions thresholds shown in Table 5.2-6 (South Coast AQMD 1993).

5.2.1.1 CONSTRUCTION

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS and nonattainment for PM_{10} and lead (Los Angeles County only) under the National AAQS. Construction of cumulative projects will further degrade the regional and local air quality. As shown in Table 5.2-10, project-related construction activities would generate short-term emissions for NOx and VOC that would exceed the South Coast AQMD regional emissions thresholds. However, construction of the proposed project would not exceed localized significance thresholds. Because regional construction emissions would potentially exceed the South Coast AQMD's significance thresholds during construction in the absence of mitigation, the proposed project's contribution to cumulative air quality impacts would potentially be cumulatively considerable without mitigation.

5.2.1.2 OPERATION

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by South Coast AQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the proposed project, as shown in Table 5.2-11, would not result in emissions in excess of the South Coast AQMD regional emissions thresholds. In addition, no significant impacts were identified with regard to CO hotspots. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.2-1, 5.2-3, 5.2-4, 5.2-5, and 5.2-6.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.2-2 and Cumulative** Construction activities associated with the proposed project could result in a cumulatively considerable net increase of NOx.

5.2.7 Mitigation Measures

Impact 5.2-2

AQ-1 The construction contractor(s) shall, at minimum, use equipment that meets the United States Environmental Protection Agency's (EPA) Tier 4 (Final) emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by Tier 4 emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations. Prior to construction, the project

engineer shall ensure that all plans clearly show the requirement for EPA Tier 4 emissions standards for construction equipment over 50 horsepower for the specific activities stated above. During construction, the construction contractor shall maintain a list of all operating equipment associated with building demolition in use on the site for verification by the City. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations.

5.2.8 Level of Significance After Mitigation

Impact 5.2-2

Implementation of Mitigation Measure AQ-1, which require use of the EPA's Tier 4 emissions standards for construction activities, respectively, would limit construction-related emissions from the operation of construction equipment As shown in Table 5.2-14, *Maximum Daily Regional Construction Emissions with Mitigation*, with the implementation of Mitigation Measure AQ-1, construction-related NOx emissions would be reduced to below the South Coast AQMD screening-level LST. Maximum daily regional construction emissions from overlapping construction phases with mitigation incorporated may be found in Appendix B. Project and cumulative construction-related air quality impacts under Impact 5.2-2 would be reduced to less than significant.

Table 5.2-14 Maximum Daily Regional Construction Emissions with Mitigation

	Pollutants (lb/day)[1, 2]					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Year 2020 Maximum Daily Emissions	5	79	117	<1	10	2
Year 2021 Maximum Daily Emissions	3	11	93	<1	6	1
Year 2022 Maximum Daily Emissions	56	1	14	<1	1	<1
Maximum Daily Emissions	56	79	117	<1	10	2
South Coast AQMD Regional Construction Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2.
Emissions totals may not equal 100 percent due to rounding.
[1] Based on the preliminary information provided by the Applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.
[2] Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

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5.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Mall Mixed Use Project (proposed project) to impact cultural and paleontological resources in the City of Brea. With the update of the CEQA Guidelines approved in December 2018, impacts to paleontological resources moved to the Geology and Soils section of the Appendix G checklist. However, Geology and Soils questions have been scoped out of the DEIR. Therefore, this EIR analyzes paleontological resources as part of this section. See Chapter 8, *Impacts Found Not to Be Significant,* for an analysis of the project impacts to geology and soils.

Cultural resources consist of archaeological and historical resources. Paleontological resources are the fossilized remains of plants and animals. Archaeology is the branch of paleontology that studies human artifacts, such as places, objects, and settlements that reflect group or individual religious, cultural, or everyday activities. Historical resources include sites, structures, objects, or places that are at least 50 years old and are significant for their engineering, architecture, cultural use or association, etc. In California, historic resources cover human activities over the past 12,000 years. Cultural resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. The analysis in this section is based in part on the following information:

- *Records Search Results for the BREA-03.3 Project*, South Central Costal Information Center (SCCIC), June 13, 2019

A complete copy of this study is included in Appendix C of this DEIR

5.3.1 Environmental Setting

5.3.1.1 REGULATORY BACKGROUND

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 coordinates public and private efforts to identify, evaluate, and protect the nation's historic and archaeological resources. The act authorized the National Register of Historic Places, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

Section 106 (Protection of Historic Properties) requires federal agencies to take into account the effects of their undertakings on historic properties. Section 106 Review ensures that historic properties are considered during federal project planning and implementation. The Advisory Council on Historic Preservation, an independent federal agency, administers the review process with assistance from state historic preservation offices.

National Register of Historic Places

The National Register of Historic Places (NRHP) is authorized by the National Historic Preservation Act of 1966 (Code of Federal Regulations, Title 36, Chapter I, Part 60). It is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archaeology, engineering, and culture. The NRHP recognizes resources of local, state, and national significance that have been documented and evaluated according to uniform standards and criteria.

The NRHP includes districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The NRHP is administered by the National Park Service. Properties are nominated to the NRHP by the State Historic Preservation Officer of the state in which the property is located, by the Federal Preservation Officer for properties under federal ownership or control, or by the Tribal Historic Preservation Officer if a property is on tribal lands.

To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

A. Are associated with events that have made a significant contribution to the broad patterns of history.

B. Are associated with the lives of persons significant in our past.

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

D. Have yielded, or may be likely to yield, information important in prehistory or history.

A final critical component of eligibility is "integrity." Integrity refers to the ability of a property to convey its significance and the degree to which the property retains the identity, including physical and visual attributes, for which it is significant under the four basic criteria. The NRHP criteria recognize seven aspects or qualities of integrity: location, design, setting, materials, workmanship, feeling, and association.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites on federal and Indian lands.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act was established within the Omnibus Public Land Management Act of 2009, which regulates the management, collection, and curation of paleontological resources from National Forest System lands.

Preservation of American Antiquities

The Federal Antiquities Act of 1906 was enacted with the primary goal of protecting cultural resources in the United States. As such, it explicitly prohibits appropriation, excavation, injury, and destruction of "any historic or prehistoric ruin or monument, or any object of antiquity" on lands owned or controlled by the federal government without permission of the secretary of the federal department with jurisdiction. It also establishes criminal penalties, including fines and/or imprisonment, for these acts. Neither the Antiquities Act itself nor its implementing regulations specifically mention paleontological resources. However, several federal agencies—including the National Park Service, the Bureau of Land Management, and the US Forest Service—have interpreted objects of antiquity to include fossils. Consequently, the Antiquities Act also represents an early cornerstone for efforts to protect the nation's paleontological resources.

Native American Graves Protection and Repatriation Act

NAGPRA is a federal law passed in 1990 that mandates museums and federal agencies to return certain Native American cultural items—such as human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants or culturally affiliated Indian tribes.

State

California Register of Historical Resources

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register of Historical Resources (CRHR) is the authoritative guide to the state's significant historical and archaeological resources.

The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA.

To be eligible for listing in the CRHR, a resource must meet at least one of the following criteria:

A. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

B. Associated with the lives of persons important to local, California or national history.

C. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possess high artistic values.

D. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation. (PRC Section 5024.1[c])

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. In summary, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR of, under Criterion D, it maintains the potential to yield significant scientific or historical information or specific data.

California Public Resources Code

Archaeological, paleontological, and historical sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). In addition, cultural and paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and CEQA.

PRC Sections 5020 to 5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the California Register of Historical Resources and is responsible for designating State Historical Landmarks and Historical Points of Interest.

PRC Sections 5079 to 5079.65 define the functions and duties of the Office of Historic Preservation, which administers federal- and state-mandated historic preservation programs in California as well as the California Heritage Fund.

PRC Sections 5097.9 to 5097.991 provide protection to Native American historical and cultural resources and sacred sites; identify the powers and duties of the Native American Heritage Commission; require that descendants be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

Local

City of Brea General Plan

The City of Brea General Plan (2003) identifies Historic Brea—which includes neighborhoods in the southwest portion of the City—as well as goals to preserve Brea's unique historic and cultural resources and neighborhoods. The Community Resources Element of the General Plan includes a section on historic resources and provides goals for preserving historical resources, encouraging rehabilitation, and ensuring all residents are aware of the importance of historic preservation.

City of Brea Municipal Code

Chapter 20.60, Historic Preservation, promotes the historic, cultural, educational, economic, and general welfare of the community by ensuring development is consistent with the Land Use, Housing, and Historic Resource elements of the Brea General Plan; establishing mechanisms to identify and preserve historic and

architectural characteristics of Brea; and encouraging preservation, restoration, and rehabilitation of resources, thereby preventing blight. Chapter 20.60 also includes criteria for what is potentially a local historic resource:

- If the resource exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history.
- If the resource is identified with persons or events significant in local, state, or national history.
- If it embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship.
- If it is representative of the work of a notable builder, designer, or architect.
- If it contributes to the significance of a historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically by plan or physical development.
- If it embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation.
- If it reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning.
- If it is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

5.3.1.2 EXISTING CONDITIONS

The Brea Mall encompasses approximately 1,291,433 square feet of commercial square footage. The mall consists of a central retail core with five major department stores "anchors"—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, and Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures along the Brea Mall Circle (referred to as the "outlot" or "out parcels"), including the Olive Garden, Red Lobster, and the Cheesecake Factory.[1]

Cultural Setting

Prehistoric Resources

The Puente and Carbon Canyon Hills lie within an area considered by archaeologists and ethnologists to have been inhabited prehistorically by the Gabrieleno (Brea 2003a). Only a small portion of Brea has been surveyed for archaeological resources, so the full extent of archaeological resources in Brea is not known.

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

Historical Resources

The land that composes the City of Brea used to be part of land holdings of the San Gabriel Mission, established in 1771 by the Franciscan Padres. During the Mission period and subsequent Rancho era, vast herds of Mexican cattle pastured on all the land in and surrounding Brea (Brea 2003b). In 1863, Brea and thousands of acres of rancho lands were acquired by Abel Stearns, who later leased land to sheep ranchers.

Sheep ranching and oil production were the predominant business activities during the latter half of the 1800s, and the Puente Hills and Brea Canyon supported substantial petroleum production. The first village in Brea was called Olinda and was originally situated where Carbon Canyon Regional Park lies today (Brea 2003b). Along with the oil boom, land in and around the City began converting from sheep ranchers to orange groves.

Cultural Resources Records Search

The South Central Coastal Information Center (SCCIC) conducted a records search for the project area and a one-mile radius. The search includes a review of all recorded archaeological and built-environment resources and a review of cultural resources reports. The California Points of Historical Interest, California Historical Landmarks, California Register of Historical Resources, National Register of Historic Places, and the California State Historic Properties Directory listings were also reviewed as part of the SCCIC records search. According to the records search results, no archaeological resources were recorded for the project area; however, five archaeological resources were identified within the one-mile radius.

Paleontological Setting

The bedrock in the Puente Hills is composed of Miocene deposits called the Puente Formation. The Puente Formation is a fossiliferous deposit composed mostly of diatomaceous shales and possible vertebrate fossil fauna. The Puente Formation is well documented to contain abundant fossil specimens, including whales, porpoises, fish, sea lions, shark teeth, other bony fish, leaves, and marine invertebrates. In addition, significant vertebrate fossils, principally land mammals and birds, have been found in Quaternary (Pleistocene Ice Age and recent) terrestrial deposits throughout Orange County (Brea 2003a). The Los Coyotes area in the northern portion of Orange County is identified as one of the most prolific and scientifically valuable fossil deposits in the nation (Orange 2005). Subsurface resources such as archaeological and paleontological sites are abundant in the southern portion of Orange County along the coasts and in creek areas (Orange 2005).

5.3.2 Thresholds of Significance

CEQA Guidelines Section 15064.5 provides direction on determining significance of impacts to archaeological and historical resources. Generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated the with lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC § 5024.1; 14 CCR § 4852)

The fact that a resource is not listed in the California Register of Historical Resources, not determined to be eligible for listing, or not included in a local register of historical resources does not preclude a lead agency from determining that it may be a historical resource.

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

C-1 Cause a substantial adverse change in the significance of a 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 Disturb any human remains, including those interred outside of dedicated cemeteries.

C-4 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

City of Brea Significance Criteria

Historic Resources

Chapter 20.60, Historic Preservation, Section 20.60.030, Criteria for Designation of Individual Historic Resources, provides supplemental criteria to those listed in CEQA Guidelines Section 15064.5 to evaluate historic in the City of Brea:

- If the resource exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;
- If the resource is identified with persons or events significant in local, state, or national history;
- If it embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
- If it is representative of the work of a notable builder, designer, or architect;
- If it contributes to the significance of a historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically by plan or physical development;

- If it embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation;
- If it reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning;
- If it is one of the few remaining examples in the city, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

5.3.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP CUL-1 Native American historical and cultural resources and sacred sites are protected under PRC Sections 5097.9 to 5097.991, which require that descendants be notified when Native American human remains are discovered and provide for treatment and disposition of human remains and associated grave goods.

PPP CUL-2 The removal, without permission, of any paleontological site or feature is prohibited from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof (PRC Section 5097.5). This applies to agencies' own activities, including construction and maintenance, and permit actions by others.

PPP CUL-3 Adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands require reasonable mitigation. (PRC Section 5097.5)

PPP CUL-4 If human remains are discovered within a project site, disturbance of the site must stop until the coroner has investigated and made recommendations for the treatment and disposition of the human remains to the person responsible for the excavation, or to his or her authorized representative. If the coroner has reason to believe the human remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. (California Health and Safety Code Section 7050.5)

5.3.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which were disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.3-1: Development of the project would not impact historic resources. [Threshold C-1]

A SCCIC records search was conducted for the project that included review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports. The California Points of Historical Interest, California Historical Landmarks, CRHR, NRHP, and the California State Historic

Properties Directory listings were also reviewed. Based on the results of the records search, the project area is not listed on a national, state, or local historic registry.

The project area is within a one-mile radius of 408 California State Historic Properties Directory listings, 1 NRHP listing, and 2 CRHR listings (SCCIC 2019). Brea General Plan Figure CR-6, Historic Resources, shows that the nearest historic resource to the project area is the locally designated "Practice House" 0.28 mile to the west. The Brea Mall site was constructed in 1976 and is not identified as a local, state, or national historic resource. Figure CR-6 shows no resources on the project area identified as City of Brea Historic Resources, CRHR, or NRHR (Brea 2003b). Construction would occur within the footprint of the project area. Therefore, the proposed project would not result in impacts to historic resources.

Level of Significance Before Mitigation: Based on the analysis above, no impact would occur.

Impact 5.3-2: Development of the project could impact archaeological resources. [Threshold C-2]

Only a small portion of Brea has been surveyed for archaeological resources, so the full extent of archaeological resources in Brea is not known (Brea 2003a). The project area has been excavated, graded, paved, and is developed as a mall. Therefore, the surface and subsurface have been previously disturbed. The project area would require demolition, ground clearing, excavation, grading, and other construction activities. According to the records search (see Appendix C), there are no Archaeological Determinations of Eligibility (i.e., archaeological resources assessed by the Office of Historic Preservation with respect to National Register eligibility) on the project area (SCCIC 2019). However, five archaeological resources have been identified within a one-mile radius of the project area (SCCIC 2019). Additionally, according to the Native American Heritage Commission's Sacred Land Files record search, no tribal resources were found on the project area (see Section 5.13, *Tribal Cultural Resources*).

Although archaeological resources were not identified on the project area, and the project area is developed, the project would require excavations below the current foundations, and it is possible that subsurface archaeological resources exist and may be encountered during construction activities that disturb soil. Therefore, the proposed project could potentially unearth previously unknown/unrecorded archaeological resources.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.3-2 would be potentially significant.

Impact 5.3-3: Grading activities could potentially disturb human remains, but compliance with existing regulations would ensure that impacts are less than significant. [Threshold C-3]

The project area is currently developed and would require demolition, ground clearing, excavation, grading, and other construction activities, in order to accommodate the proposed improvements onsite. California Health and Safety Code, Section 7050.5; CEQA Section 15064.5; and Public Resources Code, Section 5097.98, mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code, Section 7050.5,

requires that if human remains are discovered on a project area, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. In the unlikely event soil-disturbing activities associated with the proposed project would result in the discovery of human remains, compliance with existing law would ensure that significant impacts to human remains would not occur.

Level of Significance Before Mitigation: After application of RR CUL-5, above, Impact 5.3-3 would be less than significant.

Impact 5.3-4: Development of the project could impact paleontological resources or unique geologic features. [Threshold C-4]

The bedrock in the Puente Hills is composed of later Miocene deposits called Puente Formation, and Quaternary (Pleistocene Ice Age and recent) terrestrial deposits are found throughout Orange County (Brea 2003a). The project area has been graded, paved, and developed with a mall; no unique geologic features are onsite. The proposed project would require ground clearing, excavation, grading, and other construction activities to accommodate utility requirements. Due to the ground disturbance associated with construction, there is potential that natural landform beneath the site would be encountered during construction and that subsurface resources and/or paleontological resources would be discovered.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.3-4 would be potentially significant.

5.3.5 Cumulative Impacts

The area considered for cumulative impacts to historic and archaeological resources is within a one-mile radius of the project area, the same area as the records search. Over 400 previously recorded historical and/or archaeological resources were identified within one mile of the project area, according to the records search conducted by SCCIC. Other projects in the region could demolish or otherwise alter historical and archaeological resources. Other projects would be required to comply with CEQA Guidelines Section 15064.5, which requires the lead agency to determine if discovered resources are unique or historically significant, and if so, to avoid or mitigate impacts to such resources in accordance with the provisions of PRC Section 21083.2. The project would not result in a cumulatively considerable impact to cultural or paleontological resources.

5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.3-1 and 5.5-3.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.3-2** Development of the project could result in the discovery of subsurface archaeological resources.
- **Impact 5.3-4** Development of the project could result in the discovery of paleontological resources.

5.3.7 Mitigation Measures

Impact 5.3-2

CUL-1 Prior to issuance of grading permits, a qualified archaeological monitor shall be identified to be on call during ground-disturbing activities. If archaeological resources are discovered during excavation and/or construction activities, construction shall stop within 50 feet of the find, and the qualified archaeologist shall be consulted to determine whether the resource requires further study. The archaeologist shall make recommendations to the City of Brea to protect the discovered resources. Archaeological resources recovered shall be provided to an accredited museum such as the John D. Cooper Center in Fullerton or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.

Impact 5.3-4

CUL-2 Prior to construction, a qualified paleontologist shall monitor all excavations below five feet. If unique paleontological resources are discovered during excavation and/or construction activities, construction shall stop within 50 feet of the find, and the qualified paleontologist shall be consulted to determine whether the resource requires further study. The paleontologist shall make recommendations to the City of Brea to protect the discovered resources. Any paleontological resources recovered shall be provided for curation at a local curation facility such as the Los Angeles County Natural History Museum, the John D. Cooper Center in Fullerton, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.

5.3.8 Level of Significance After Mitigation

Impact 5.3-2

Mitigation Measure CUL-1 would require that a qualified archaeological monitor be on call in the event that cultural resources are uncovered during ground-disturbing activities. In the event resources are uncovered,

Mitigation Measure CUL-1 requires that the resources are recovered and deposited at a local museum or repository. Due to the low potential to uncover archaeological resources onsite and the size of the project area, a 50-foot buffer would be sufficient to ensure that resources would be protected in the vicinity of the find. Mitigation Measure CUL-1 would reduce potential impacts to archaeological resources to a level that is less than significant. Impact 5.3-2 would be less than significant with mitigation.

Impact 5.3-4

Mitigation Measure CUL-2 requires a qualified paleontologist to be present onsite during all excavation activities below five feet. If resources are discovered during ground-disturbing activities, the resources would be recovered and deposited at a local museum or repository. Due to the low potential to uncover paleontological resources onsite and the size of the project area, a 50-foot buffer would be sufficient and would not halt construction across the entire project area. Mitigation Measure CUL-2 would reduce potential impacts to paleontological resources to a level that is less than significant. Impact 5.3-4 would be less than significant with mitigation.

5.3.9 References

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5.4 ENERGY

This section evaluates the potential for energy-related impacts associated with the project and ways in which the project would reduce unnecessary energy consumption, consistent with the suggestions in Appendix F of the CEQA Guidelines. Energy service providers to the site include Southern California Edison (SCE) for electrical service and Southern California Gas Company (SoCalGas) for natural gas. Modeling of electricity and natural gas usage of the project is included in Appendix D of this DEIR.

5.4.1 Environmental Setting

Section 21100(b)(3) of CEQA requires that an EIR include a detailed statement with mitigation measures proposed to minimize significant effects on the environment, including but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F of the State CEQA Guidelines states that, in order to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the project description, environmental setting, and impact analysis portions of technical sections, as well as through mitigation measures and alternatives.

In accordance with Appendixes F and G of the State CEQA Guidelines, this EIR includes relevant information and analyses that address the energy implications of the proposed project. This section summarizes the proposed project's anticipated energy needs, impacts, and conservation measures. The information in this section and other aspects of the proposed project's energy implications are also discussed in Chapter 3, *Project Description*, and Sections 5.3, *Air Quality*, 5.8, *Greenhouse Gas Emissions*, and 5.15, *Transportation.*

5.4.1.1 REGULATORY BACKGROUND

Federal Regulations

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act sets increased Corporate Average Fuel Economy Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2019).

5. Environmental Analysis
ENERGY

State Regulations

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006, 2011 and 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the State. Based on the 3rd quarter 2014 report, the three largest retail energy utilities provided an average of 20.9 percent of its supplies from renewable energy sources. Since 2003, 8,248 megawatts (MW) of renewable energy projects have started operations (CPUC 2014). SB 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. SB 100 (de Leon) passed in 2018 puts California on the path to 100 percent fossil-fuel-free electricity by the year 2045 (CEC 2017a).

State Alternative Fuels Plan

AB 1007 requires the California Energy Commission (CEC) to prepare a plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan was prepared by the CEC with the California Air Resources Board and in consultation with other federal, state, and local agencies to reduce petroleum consumption; increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen); reduce greenhouse gas (GHG) emissions; and increase in-state production of biofuels. The State Alternative Fuels Plan recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels; result in significant improvements in the energy efficiency of vehicles; and reduce trips and vehicle miles traveled through changes in travel habits and land management policies. The Alternative Fuels and Vehicle Technologies Funding Program legislation (AB 118, Statutes of 2007) proactively implements this plan (CEC 2007).

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017b).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2016 (California Code of Regulations Title 24, Part 6). Title 24 requires the design of

building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards, which were recently adopted on May 9, 2018, go into effect starting January 1, 2020.

The 2016 Standards improve upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are generally 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015). Although the 2016 standards do not achieve zero net energy, they get very close to the state's goal and take important steps toward changing residential building practices in California.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (California Code of Regulations Title 24, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2016. The 2016 Standards became effective on January 1, 2017. On October 3, 2018, the CEC adopted the voluntary standards of the 2019 CALGreen, which become effective January 1, 2020.

Overall, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection; stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CBSC 2019b).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles. In January 2012, the California Air Resources Board approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions. (CARB 2017).

Local

City of Brea Sustainability Plan

The City of Brea's Sustainability Plan focuses on creating a sustainable future for the City and offers goals and policies that address energy efficiency and conservation for the residential, business, building, transportation, municipal, hospitality, and education sectors. The most relevant goal and policies are:

- **Build 1** Maximize cost effective energy efficiency in new construction and existing facilities.
  - **Build 1.1.** Promote programs that support efficiency in new construction.
  - **Build 1.3.** Promote green building measures and renewable energy installations.

5.4.1.2 EXISTING CONDITIONS

Electricity

The project area is in SCE's service area, which spans much of southern California from Orange and Riverside counties on the south to Santa Barbara County on the west to Mono County on the north (CEC 2015a). Total electricity consumption in SCE's service area in gigawatt-hours (GWh) was 102,521 GWh in 2018 (CEC 2019a).[1] Sources of electricity sold by SCE in 2017, the latest year for which data are available, were:

- 32 percent renewable, consisting mostly of solar and wind
- 8 percent large hydroelectric
- 20 percent natural gas
- 6 percent nuclear

[1] One GWh is equivalent to one million kilowatt-hours.

- 34 percent unspecified sources—that is, not traceable to specific sources (SCE 2018)[2]

Operation of the existing facility consumes electricity for various purposes, including but not limited to heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; security and control center functions; lighting; and use of onsite equipment and appliances. Based on historical electricity consumption data, the existing Brea Mall consumed an average of 23,500,670 kilowatt-hours annually. Existing electricity consumption for the project area is shown in Table 5.4-1.

Table 5.4-1 Electricity Consumption

Land Use	Electricity (kWh/year)
Existing Brea Mall	17,356,900
Existing Brea Mall Retail Parking Structures	5,127,230
Existing Brea Mall Parking Lot	1,016,540
Total	**23,500,670**

Source: CalEEMod 2016.3.2. See Appendix D. Based on historical electricity rates in CalEEMod.
kWh = kilowatt-hour

Gas

SoCalGas provides gas service in the City of Brea and has facilities throughout the City, including the project area. The service area of SoCalGas spans much of the southern half of California, from Imperial County on the southeast to San Luis Obispo County on the northwest to part of Fresno County on the north, to Riverside County and most of San Bernardino County on the east (CEC 2015b). Total natural gas supplies available to SoCalGas for years 2018 and 2019 are 3,055 million cubic feet per day (MMcf/day) and 3,385 MMcf/day, respectively (CGEU 2018). Total natural gas consumption in SoCalGas's service area was 719,423 MMcf for 2018, which is equivalent to 1,971 MMcf/day (CEC 2019).

The existing Brea Mall generates an average natural gas demand of 2,724,920 kilo–British thermal units (BTU) per year, as shown in Table 5.4-2.

Table 5.4-2 Natural Gas Consumption

Land Use	Natural Gas (kBTU/year)
Existing Brea Mall	2,724,920
Existing Brea Mall Retail Parking Structures	0
Existing Brea Mall Parking Lot	0
Total	**2,724,920**

Source: CalEEMod 2016.3.2. See Appendix D. Based on historical natural gas consumption rates in CalEEMod.
kBTU = kilo-British thermal unit

[2] The electricity sources listed reflect changes after the 2013 closure of the San Onofre Nuclear Generating Station, which is owned by SCE.

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment 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.

5.4.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP E-1 New buildings are required to achieve the current California Building Energy Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building Energy Efficiency Standards were effective starting January 1, 2017. The 2019 Building Energy Efficiency Standards will become effective on January 1, 2020. The Building Energy Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and non-residential buildings by 2030.

PPP E-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new non-residential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2).

PPP E-3 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse at minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). Construction contractors are required to submit a construction waste management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvaged for future use or sale and the amount (by weight or volume).

PPP E-4 Construction activities are required to adhere to Title 13 California Code of Regulations Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

PPP E-5 New buildings are required to adhere to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase water efficiency and reduce urban per capita water demand.

PPP E-6 The California Air Resources Board's Renewable Portfolio Standard (RPS) is a foundational element of the State's emissions reduction plan. These mandates apply directly to investor-owned utilities, which in the case of the proposed project is Southern California Edison. On September 10, 2018, Senate Bill 100 was signed into law and established the following RPS targets: 50 percent renewable resources target by December 31, 2026, and 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

PPP E-7 The 2007 Energy Bill creates new federal requirements for increases in fleetwide fuel economy for passenger vehicles and light trucks under the Federal Corporate Average Fuel Economy Standards. The federal legislation requires a fleetwide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase in requirements to achieve this goal. Analysis by the California Air Resources Board suggests that this will require an annual improvement of approximately 3.4 percent between 2008 and 2020.

PPP E-8 SB 375 requires the reduction of GHG emissions from light trucks and automobiles through land use and transportation efforts that will reduce vehicle miles traveled. In essence, SB 375's goal is to control GHGs by curbing urban sprawl and through better land use planning. SB 375 essentially becomes the land use contribution to the GHG reduction requirements of AB 32, California's global warming bill enacted in 2006, and SB 32.

5.4.4 Environmental Impacts

5.4.4.1 METHODOLOGY

Based on CEQA Guidelines Appendix F, Energy Conservation, in order to ensure energy implications are considered in project decisions, EIRs include a discussion of the potential impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources. Environmental effects may include the proposed project's energy requirements and its energy use efficiencies by amount and fuel type during demolition, construction, and operation; the effects of the proposed project on local and regional energy supplies; the effects of the proposed project on peak- and base-period demands for electricity and other forms of energy; the degree to which the proposed project complies with existing energy standards; the effects of the proposed project on energy resources; and the proposed project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if applicable.

5.4.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Project construction and operation would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. [Threshold E-1]

Short-Term Construction Impacts

Construction of the proposed project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electrical Energy

Construction of the proposed project would not require electricity to power most construction equipment. Electricity use during construction would vary during different phases of construction: The majority of construction equipment during demolition and grading would be gas- or diesel-powered, and the later construction phases would require electricity-powered equipment for interior construction and architectural coatings. Overall, the use of electricity would be temporary and would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Therefore, project-related construction activities would not result in wasteful or unnecessary electricity demands, and impacts would be less than significant.

Natural Gas Energy

It is not anticipated that construction equipment used for the proposed project would be powered by natural gas, and no natural gas demand is anticipated during construction. Therefore, impacts would be less than significant with respect to natural gas usage.

Transportation Energy

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that the majority of off-road construction equipment, such as those used during demolition and grading, would be gas- or diesel-powered. In addition, all construction-equipment would cease upon completion of project construction. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Energy consumption during construction (2020 through 2022) was calculated using the CalEEMod, Version 2016.3.2 computer model and data from the EMFAC2017 Version 1.0.2 and OFFROAD2017 Version 1.0.1 databases. The results are shown in Table 5.4-3, *Construction-Related Fuel Usage*.

Table 5.4-3 Construction-Related Fuel Usage

Project Component	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Construction Worker Commute	1,328,873	48,640	9,078	209	16,138	5,340
Construction Vendor Trips	6,291	1,254	61,210	7,866	0	0
Construction Truck Haul Trips	78	19	96,295	14,885	0	0
Construction Off-Road Equipment	N/A	11,606	N/A	189,588	N/A	0
Total	1,335,242	61,519	166,583	212,548	16,138	5,340

Source: CalEEMod Version 2016.3.2; EMFAC2017 Version 1.0.2; OFFROAD2017 Version 1.0.1.
VMT=vehicle miles traveled; kWh=kilowatt hour

The proposed project would not result in wasteful, inefficient, or unnecessary use of energy during construction. It is anticipated that the construction equipment would be well maintained and meet the appropriate tier ratings per CALGreen or EPA emissions standards, so that adequate energy efficiency level is achieved. Construction trips would not result in unnecessary use of energy since the project area is centrally located and is served by numerous regional freeway systems (e.g., I-10, I-15, and I-60) that provide the most direct routes from various areas of the region. Electrical energy would be available for use during construction from existing power lines and connections, precluding the use of less-efficient generators. Thus, energy use during construction of the project would not be considered inefficient, wasteful, or unnecessary. Impacts would be less than significant.

Long-Term Impacts During Operation

Operation of the proposed project would create additional demands for electricity and natural gas compared to existing conditions and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting.

Electrical Energy

Operation of the existing facility consumes electricity for various purposes, including heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; security and control center functions; lighting; and use of onsite equipment and appliances. The proposed electricity consumption for the mall, residential housing, and associated parking lots and structures is shown in Table 5.4-4, *Brea Mall Mixed Use Project Electricity Consumption*.

Table 5.4-4 Brea Mall Mixed Use Project Electricity Consumption

Land Use	Kilowatt-Hours per Year		
	Existing Brea Mall[1]	Proposed Brea Mall[2]	Net Change (Proposed Project)
Apartments	0	1,211,690	1,211,690
Parking Structure	5,128,010	5,914,170	786,160
Fitness Center	0	975,104	975,104
Parking Lot	1,021,190	268,635	-752,555
Regional Shopping Center	17,356,900	14,437,100	-2,919,800
Total	**23,506,100**	**22,806,699**	**-699,401**

Source: CalEEMod 2016.3.2. See Appendix D.
[1] Based on historical electricity rates in CalEEMod.
[2] New buildings are modeled based on the 2019 Building and Energy Efficiency Standards.

Electrical service to the proposed project would be provided by Southern California Edison through connections to existing offsite electrical lines and new onsite infrastructure. As seen in the table, estimated electricity use by the project would show a net decrease of 699,401 kilowatt-hours/year from existing conditions. Furthermore, the proposed project would be consistent with the requirements of the current Building Energy Efficiency Standards and CALGreen and, thus, would not result in wasteful or unnecessary electricity demands. Therefore, the proposed project would not result in a significant impact related to electricity.

Natural Gas Energy

The proposed natural gas consumption for the project area is shown in Table 5.4-5, *Brea Mall Mixed Use Project Natural Gas Consumption*. As seen in the table, natural gas demand would have a net increase of 3,917,000 kilo-British thermal units per year with the proposed project implementation due to consumption from the proposed mall and residential housing buildout. Because the proposed project would be built to meet the Building Energy Efficiency Standards, it would not result in wasteful or unnecessary natural gas demands. Therefore, operation of the proposed project would result in less than significant impacts with respect to natural gas usage.

Table 5.4-5 Brea Mall Mixed Use Project Natural Gas Consumption

Land Use	Kilo-British Thermal Units per Year		
	Existing Brea Mall[1]	Proposed Brea Mall[2]	Net Change (Proposed Project)
Apartments	0	2,624,670	2,624,670
Fitness Center	0	1,756,160	1,756,160
Regional Shopping Center	2,724,920	2,261,090	-463,830
Total	**2,724,920**	**6,641,920**	**3,917,000**

Source: CalEEMod 2016.3.2. See Appendix D.
[1] Based on historic electricity rates in CalEEMod.
[2] New buildings are modeled based on the 2019 Building and Energy Efficiency Standards. The apartments would not have fireplaces.

Transportation Energy

The proposed project would consume transportation energy during operations from the use of motor vehicles. The efficiency of motor vehicles in use, such as the average miles per gallon for motor vehicles involved with the existing project conditions and the proposed project, are unknown. Therefore, estimates of transportation energy use is assessed based on the overall vehicle miles traveled (VMT) and related transportation energy use. The project-related VMT would primarily come from future visitors to the mall and mall employees. As seen in Table 5.4-6, *Brea Mall Mixed Use Project Annual Operation-Related Fuel Usage*, the annual VMT for the proposed Brea Mall is estimated to be 121,576,159 miles. However, since the proposed project would involve further development of the mall and new residential housing opportunities, its implementation would provide more opportunities for employment for residents of the City and opportunities to reside within an urbanized area with nearby amenities and public transit options. In addition, in compliance with CALGreen, the proposed project would include bicycle racks and storage for employee use. These features of the proposed project would contribute to minimizing per capita VMT and transportation-related fuel usage. Thus, it is expected that operation-related fuel usage associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than similar development projects. Therefore, impacts would be less than significant with respect to operation-related fuel usage.

Table 5.4-6 Brea Mall Mixed Use Project Annual Operation-Related Fuel Usage

	Gasoline		Diesel		CNG		Electricity	
	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual kWh
Existing Brea Mall	100,046,274	4,102,934	5,846,082	560,938	184,775	55,459	955,161	320,128
Proposed Brea Mall	112,227,116	4,207,608	7,235,117	647,342	242,975	73,620	1,870,708	615,136
Net Change (Proposed Project	12,180,842	104,674	1,389,035	86,404	58,200	18,161	915,547	295,008

Source: EMFAC2017 Version 1.0.2. Annual VMT for existing conditions and project operations is based on CalEEMod default data.

Level of Significance Before Mitigation: Less than Significant.

Impact 5.4-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. [Threshold E-2]

This impact analysis evaluates consistency of the proposed project to the energy-related policies and measures of the City of Brea Sustainability Plan.

City of Brea Sustainability Plan

The Sustainability Plan includes goals and measures that focus on increasing energy efficiency and renewable sources of energy. While most of the policies apply specifically to existing structures, workplace energy efficiency, government operations, or public awareness measures, the proposed project is generally consistent with the overall objective of the Sustainability Plan to increase energy efficiency. Both the retail and residential components of the project would be built to meet the California Building Energy Efficiency

Standards and CALGreen and would thereby fulfil Policy SP-Build 1.1 and 1.3 of the Sustainability Plan to promote programs that support efficiency in new construction and promote green building measures. Overall, the proposed project would be consistent and would not interfere with the City of Brea Sustainability Plan.

Level of Significance Before Mitigation: Less than Significant.

5.4.5 Cumulative Impacts

The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of SCE and SoCalGas, respectively, described above in Section 5.4.1. Other projects would generate increased electricity and natural gas demands. However, all projects within the SCE and SoCalGas service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute in minimizing wasteful energy consumption. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.4-1 and 5.4-2.

5.4.7 Mitigation Measures

No mitigation measures are necessary because there were no significant impacts identified under the applicable thresholds.

5.4.8 Level of Significance After Mitigation

Because no mitigation measures are required, impacts are the same as described in Section 5.4.6.

5.4.9 References

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5. Environmental Analysis
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5.5 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, climate change impacts of a project are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). GHG emissions modeling was conducted using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and model outputs are in Appendix B of this DEIR.

Terminology

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.
- **Carbon dioxide equivalent (CO_2e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- **$MTCO_2e$.** Metric ton of CO_2e.
- **$MMTCO_2e$.** Million metric tons of CO_2e.

5.5.1 Environmental Setting

5.5.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1,2] The major GHGs applicable to the proposed project are briefly described.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.5-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2e to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4), GWP values for CH_4, 10 MT of CH_4 would be equivalent to 250 MT of CO_2.

Table 5.5-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298

Source: IPCC 1995, 2007.

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in AR4 are used by South Coast AQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2014 Scoping Plan Update was based on the GWP values in AR4.

1 Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2.

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

2 Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017a). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

California's GHG Sources and Relative Contribution

In 2019, the statewide GHG emissions inventory was updated for 2000 to 2017 emissions using the GWPs in IPCC's AR4.[3] Based on these GWPs, California produced 424.10 MMTCO2e GHG emissions in 2017. California's transportation sector was the single largest generator of GHG emissions, producing 40.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.7 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.6 percent) high GWP (4.7 percent), and recycling and waste (2.1 percent) (CARB 2019a).

California's GHG emissions have followed a declining trend since 2007. In 2017, emissions from routine GHG emitting activities statewide were 424 $MMTCO_2e$, 5 $MMTCO_2e$ lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 MMTCO2e below the 1990 level and the state's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 $MTCO_2e$ per capita to 10.7 MTCO2e per capita in 2017, a 24 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 41 percent decline since the 2001 peak, while the state's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources (hydro, solar, wind, and nuclear energy) (CARB 2019b).

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO_2 in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate

[3] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide, average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). The years from 2014 through 2016 have shown unprecedented temperatures with 2014 being the warmest (OEHHA 2018). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels (CCCC 2012).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, with unprecedented dry years occurring in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018). According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.5-1), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 5.5-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

Table 5.5-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006; CEC 2009; CCCC 2012; CNRA 2014.

5.5.1.2 REGULATORY BACKGROUND

This section describes the federal, state, and local regulations applicable to GHG emissions.

Federal

The EPA announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per South Coast AQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 $MTCO_2e$ or more per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025 that will require a fleet average of 54.5 miles per gallon in 2025.

While the EPA is reexamining the 2017–2025 emissions and CAFE standards, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards (CARB 2019c).

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new, large, stationary sources of emissions, such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy (ACE) rule which became effective on August 19, 2019. The ACE rule was crafted under the direction of President Trump's Energy Independence Executive Order. It officially rescinds the Clean Power Plan rule issued during the Obama Administration and sets emissions guidelines for states in developing plans to limit CO_2 emissions from coal-fired power plants.

State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32) and Senate Bill 375 (SB 375).

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

CARB 2008 Scoping Plan

The first Scoping Plan was adopted by the California Air Resources Board (CARB) on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO2e (471 million tons) for the state (CARB 2008). To effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted May 22, 2014, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$ (CARB 2014).

As identified in the Update to the Scoping Plan, California is on track to meet the goals of AB 32. The update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goal, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014). CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to

efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent below 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197, making the Executive Order goal for year 2030 into a statewide, mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB approved the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017b).

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).

- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency and utilizes near-zero emissions technology and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions—for example, statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the "business as usual" yardstick—that is, what would the GHG emissions look like if the state did nothing at all beyond the policies that are already required and in place to achieve the 2020 limit, as shown in Table 5.5-3, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in

implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table 5.5-3 2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target	**60**

Source: CARB 2017b.

Table 5.5-4, *2017 Climate Change Scoping Plan Emissions Change by Sector*, provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 5.5-4 2017 Climate Change Scoping Plan Emissions Change by Sector

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[1]	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	**431**	**260**	**-40%**

Source: CARB 2017b.
Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.
[1] Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 $MMTCO_2e$ of reductions by 2020 and 15 $MMTCO_2e$ of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018). CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018 are subject to these new targets.

SCAG's RTP/SCS

SB 375 requires each MPO to prepare an SCS in their regional transportation plan. For the SCAG region, the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted on April 7, 2016, and is an update to the 2012 RTP/SCS (SCAG 2016). SCAG recently released the 2020-2045 RTP/SCS (Draft Connect SocCal Plan) on November 7, 2019 (SCAG 2019). In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

The 2016-2040 RTP/SCS projects that the SCAG region will meet or exceed the passenger per capita targets set in 2010 by CARB. It is projected that VMT per capita in the region for year 2040 would be reduced by 7.4 percent with implementation of the 2016-2040 RTP/SCS compared to a no-plan year 2040 scenario. Under the 2016-2040 RTP/SCS, SCAG anticipates lowering GHG emissions 8 percent below 2005 levels by 2020,

18 percent by 2035, and 21 percent by 2040. The 18 percent reduction by 2035 over 2005 levels represents a 2 percent increase in reduction compared to the 2012 RTP/SCS projection. Overall, the SCS is meant to provide growth strategies that will achieve the aforementioned regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high quality transit areas and livable corridors and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2016). However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are

ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions 80 percent below 1990 levels.

Renewables Portfolio – Carbon Neutrality Regulations

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards, which were recently adopted on May 9, 2018, go into effect starting January 1, 2020.

The 2016 Standards continues to improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015a). Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. While the 2016 standards do not achieve zero net energy, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[4] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2016. The 2016 Standards became effective on January 1, 2017. The CEC adopted the voluntary

[4] The green building standards became mandatory in the 2010 edition of the code.

standards of the 2019 CALGreen on October 3, 2018. The 2019 CALGreen standards become effective January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939 – Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 342

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of the CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

AB 1881 – Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. The bill also establishes targets for reducing organic waste in landfill. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Reduction Strategy," which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use (CARB 2017b). In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these char broilers by over 80 percent (CARB 2017b). Additionally, South Coast AQMD Rule 445 limits installation of new fireplaces in the SoCAB.

Local

City of Brea Sustainability Plan

The City of Brea Sustainability Plan: Leadership in Energy Efficiency was adopted in 2012. It presents resource efficiency goals, matched with policies and implementation steps to save energy, water, and other resources, while aligning the City of Brea for AB 32 compliance. The Sustainability Plan includes 2012 Greenhouse Gas Inventory results, which presents data for a 2010 baseline year. Sustainability goals and policies, as mentioned in the Plan, include achieving emission reductions of 34,772 MT to reach the 517,231 MT/1990 level by 2020 (Brea 2012).

5.5.1.3 EXISTING CONDITIONS

Operation of the Brea Mall generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees, vendors, and visitors; area sources such as landscaping equipment and consumer cleaning products; water demand; waste generation; and solid waste generation. Table 5.5-5, *Existing GHG Emissions Inventory*, shows the existing emissions currently associated with existing land uses in the Project Area, modeled using CalEEMod 2016.3.2.

Table 5.5-5 Existing GHG Emissions Inventory

Sector	GHG Emissions $MTCO_2e$/Year	Percent of Total
Area	<1	<1%
Energy[1]	5,551	11%
On-Road Transportation[2]	44,027	87%
Solid Waste Disposal	682	1%
Water/Wastewater[3]	351	1%
Total	**50,611**	100%

Source: CalEEMod 2016.3.2.
Notes: Totals may not add to 100 percent due to rounding.
1 Existing nonresidential building energy use modeled using historical energy demand rates in CalEEMod.
2 Transportation emissions are based on trip generation data provided by LLG. Assumed VMT and vehicle fleet mix based on CalEEMod default rates for year 2019.
3 Water use is based on the water demand rates from the California Department of Water Resources' Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes.

5.5.2 Thresholds of Significance

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

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.5.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

South Coast AQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which South Coast AQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, South Coast AQMD identified a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010a). This following tiered approach has not been formally adopted by South Coast AQMD.

- **Tier 1.** If a project is exempt from CEQA, project-level and contribution to significant cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level and contribution to significant cumulative GHG emissions are less than significant.

- **Tier 3.** If GHG emissions are less than the screening-level criterion, project-level and contribution to significant cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The South Coast AQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. South Coast AQMD identified a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types. The bright-line screening-level criteria are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions. South Coast AQMD recommends use of the 3,000 $MTCO_2e$ interim bright-line screening-level criterion for all project types (South Coast AQMD 2010b).

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.[5]

  The South Coast AQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.[6] The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[7]

5.5.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP GHG-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building and Energy Efficiency Standards were effective starting January 1, 2017. The 2019 Building and Energy Efficiency Standards will become effective on January 1, 2020. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and non-residential buildings by 2030.

PPP GHG-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new non-residential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2). The proposed project would be required to provide anchored bicycle racks and long-term secured bicycle parking.

PPP GHG-3 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse at minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). Construction contractors are required to submit a construction waste management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvaged for future use or sale and the amount (by weight or volume).

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[5] South Coast AQMD had identified an efficiency target for projects that exceed the bright-line threshold: a 2020 efficiency target of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan-level projects (e.g., general plans). Service population is generally defined as the sum of residential and employment population of a project. The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[5]

[6] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

[7] South Coast AQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

PPP GHG-4 Construction activities are required to adhere to Title 13 California Code of Regulations Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

PPP GHG-5 New buildings are required to adhere to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase water efficiency and reduce urban per capita water demand.

PPP GHG-6 CARB's Renewable Portfolio Standard (RPS) is a foundational element of the State's emissions reduction plan. These mandates apply directly to investor-owned utilities, which in the case of the proposed project is Southern California Edison. On September 10, 2018, Senate Bill 100 was signed into law and established the following RPS targets: 50 percent renewable resources target by December 31, 2026, and 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

PPP GHG-7 On January 18, 2007, Governor Arnold Schwarzenegger issued Executive Order S-1-07 requiring the establishment of a Low Carbon Fuel Standard (LCFS) for transportation fuels. The LCFS was amended in 2011 and readopted in 2015. This statewide goal requires that California's transportation fuels reduce their carbon intensity by at least 10 percent by 2020.

PPP GHG-8 The 2007 Energy Bill creates new federal requirements for increases in fleetwide fuel economy for passenger vehicles and light trucks under the Federal Corporate Average Fuel Economy Standards. The federal legislation requires a fleetwide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase in requirements to achieve this goal. Analysis by CARB suggests that this will require an annual improvement of approximately 3.4 percent between 2008 and 2020.

PPP GHG-9 On July 22, 2002, Governor Gray Davis signed Assembly Bill 1493 (Pavley) requiring CARB to develop and adopt regulations designed to reduce greenhouse gases emitted by passenger vehicles and light-duty trucks beginning with the 2009 model year. The standards set within the Pavley regulations are expected to reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016. California had petitioned the USEPA in December 2005 to allow these more stringent standards and California executive agencies have repeated their commitment to higher mileage standards. On July 1, 2009, the USEPA granted California a waiver that will enable the state to enforce stricter tailpipe emissions on new motor vehicles.

PPP GHG-10 SB 375 requires the reduction of GHG emissions from light trucks and automobiles through land use and transportation efforts that will reduce vehicle miles traveled. In essence, SB 375's goal is to control GHGs by curbing urban sprawl and through better land

use planning. SB 375 essentially becomes the land use contribution to the GHG reduction requirements of AB 32, California's global warming bill enacted in 2006, and SB 32.

5.5.4 Environmental Impacts

5.5.4.1 METHODOLOGY

This GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG emissions impacts are likely in conjunction with the type and scale of development associated with the proposed project. Air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The following provides a summary of the assumptions utilized for the proposed project analysis. GHG emissions modeling datasheets are in Appendix B.

Construction Phase

Construction would entail demolition of existing asphalt, site preparation, grading, off-site hauling of demolition debris and earthwork material, construction of the proposed structures and buildings, architectural coating, and asphalt paving on up to 17.50 acres of the 74-acre Brea Mall site. The proposed project is anticipated to be constructed over an approximately 25-month period from July 2020 to September 2022. Construction air pollutant emissions are based on the preliminary information provided by the developer identified in Table 3-5, *Construction Phasing*.

Operational Phase

- **Transportation:** The average daily trip (ADT) generation for weekday, Saturday, and Sunday trips was provided by LLG (see Appendix I). Project-related on-road criteria air pollutant emissions are based on year 2019 emission rates for existing conditions and 2022 emission rates for the project buildout year. The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). Additionally, for criteria air pollutants, brake and tire wear along with fugitive dust created from vehicles traveling roadways also generate particulate matter.

- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and VOC emissions from paints are based on CalEEMod default values and the square footage of the proposed buildings and surface parking lot areas.

- **Energy:** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage for residential and nonresidential land uses. New buildings are modeled to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for non-residential buildings than the 2016 Building Energy Efficiency

Standards. Criteria air pollutant emissions from energy use are associated with natural gas used for heating.

- **Solid Waste Disposal:** Indirect emissions from waste generation are based on the CalEEmod defaults for the retail and fitness center and data provided by the applicant for residential disposal.

- **Water/Wastewater:** Emissions of GHG are associated with the embodied energy used to supply, treat, and distribute water. Indoor water use is based on the CalEEMod defaults. Outdoor water use is based on the State Department of Water Resources' Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes Beta Version 1.09.

Life cycle emissions are not included in the GHG analysis consistent with California Resources Agency directives.[8] Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the state's AB 32/SB 32 inventory and treats this short-lived climate pollutant separately.[9]

5.5.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: Implementation of the proposed project would not generate a net increase in GHG emissions, either directly or indirectly, that would have a significant impact on the environment. [Threshold GHG-1]

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is by definition a cumulative environmental impact.

Implementation of the proposed project would result in additional mall shops, a fitness center, and residential housing. From these additional land uses, the proposed project would generate up to 34,957 weekday vehicle trips and 43,214 Saturday vehicle trips. Furthermore, operation of the proposed project would result in an increase in water demand, wastewater and solid waste generation, area sources (e.g., consumer cleaning products), and energy usage (i.e., natural gas and electricity). The project emissions and construction-related emissions are quantified and shown in Table 5.5-6, *Project-Related GHG Emissions*. As shown in the table, GHG

[8] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[9] Particulate matter emissions, which include black carbon, are analyzed under *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017a).

emissions from the proposed project, as compared to existing conditions, would not exceed South Coast AQMD's bright-line significance threshold. As a result, GHG emissions associated with the project are considered less than significant.

Table 5.5-6 Project-Related GHG Emissions

Source	Existing Brea Mall $MTCO_2e$	Proposed Brea Mall $MTCO_2e$	Percent of Proposed Brea Mall Total Emission	Net Change (Proposed Project) $MTCO_2e$
Area	<1	5	<1%	5
Energy[1]	5,551	5,601	11%	49
Mobile[2]	44,027	45,863	86%	1,836
Solid Waste	682	1,129	2%	447
Water	351	367	1%	17
30-Year Amortized Construction[3]	NA	86	<1%	89
Total Emissions	**50,611**	**53,055**	100%	**2,444**
South Coast AQMD Bright Line Threshold	NA	NA	NA	3,000 $MTCO_2e$
Exceeds South Coast AQMD Bright Line Threshold	NA	NA	NA	No

Sources: CalEEMod Version 2016.3.2.
Note: NA: not applicable
1 Existing conditions for energy uses historic rates based on CalEEMod Defaults. For project buildout conditions, the default electricity and natural gas rate in CalEEMod was adjusted to reflect 'blended' energy efficiency associated with the existing Brea Mall that would remain (using historic rates in CalEEMod) and new structures that would be constructed to achieve the 2019 Building and Energy Efficiency Standards (see Appendix B).
2 Transportation emissions are based on trip generation data provided by LLG. Assumed VMT and vehicle fleet mix based on CalEEMod default rates.
3 Construction emissions/sequestration are amortized over a 30-year period.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.5-2: Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. [Threshold GHG-2]

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's RTP/SCS. A consistency analysis with these plans is presented below.

CARB Scoping Plan

CARB's Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target established by AB 32, which is to return to 1990 emission levels by year 2020, and SB 32, which is to reduce emissions 40 percent below 1990 levels by 2030. The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

Since adoption of the Scoping Plan, state agencies have adopted programs identified in the plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency

regulations, California Renewable Energy Portfolio standard, changes in the Corporate Average Fuel Economy standards, and other early action measures as necessary to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32 and SB 32. Also, new buildings are required to comply with the current Building Energy Efficiency Standards and California Green Building Code. While measures in the Scoping Plan apply to state agencies and not the proposed project, the project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32 and SB 32 were adopted. Therefore, as with the approved project, the proposed project would not obstruct implementation of the CARB Scoping Plan.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2016-2040 RTP/SCS was adopted April 7, 2016. The RTP/SCS identifies multimodal transportation investments, including bus rapid transit, light rail transit, heavy rail transit, commuter rail, high-speed rail, active transportation strategies (e.g., bike ways and sidewalks), transportation demand management strategies, transportation systems management, highway improvements (interchange improvements, high-occupancy vehicle lanes, high-occupancy toll lanes), arterial improvements, goods movement strategies, aviation and airport ground access improvements, and operations and maintenance to the existing multimodal transportation system.

The RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2016-2040 RTP/SCS is to provide for a plan that allows the southern California region to grow in more compact communities in existing urban areas; provides neighborhoods with efficient and plentiful public transit and abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserves more of the region's remaining natural lands (SCAG 2016). The 2016-2040 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern, when integrated with the proposed regional transportation network identified in the RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region.

The RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers. The proposed project would result in high density residential development proximate to Brea Downtown and major employers. As detailed in the project description, the project would enhance the pedestrian and bicycle linkages to Brea Downtown. Consequently, the project is consistent with the overall objectives of SCAG's RTP/SCS. The proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the RTP/SCS.

City of Brea Sustainability Plan

To meet the defined goals and policies, the Sustainability Plan provides phased measures that include an implementation time frame and estimated CO_2 mitigation for the City. The Sustainability Plan consists of measures to reduce GHG emissions in the City. While most of the policies apply specifically to existing

structures, workplace energy efficiency, government operations, or public awareness measures, the proposed project is generally consistent with the overall objective of the Sustainability Plan. Both the retail and residential components of the project would be built to meet the California Building Energy Efficiency Standards and CALGreen and would thereby fulfil Policy SP-Build 1.1 and 1.3 of the Sustainability Plan to promote programs that support efficiency in new construction and promote green building measures. Overall, the proposed project would be consistent and would not interfere with the City of Brea Sustainability Plan.

Level of Significance before Mitigation: Less Than Significant.

5.5.5 Cumulative Impacts

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts under Impact 5.5-1 are project-specific impacts that contribute to global warming, but the proposed project's contribution to this cumulative impact. As discussed under Impact 5.5-1, implementation of the proposed project would not result in annual emissions that would exceed South Coast AQMD's bright-line threshold. Therefore, project-related GHG emissions and their contribution to global climate change would not be cumulatively considerable.

5.5.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.5-1 and 5.5-2.

5.5.7 Mitigation Measures

No mitigation measures are required.

5.5.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.5.9 References

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5.6 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential impacts of the proposed project on human health and the environment due to exposure to hazardous materials or conditions associated with the project area, project construction, and project operations. Potential project impacts and appropriate mitigation measures or standard conditions are included as necessary. The analysis in this section is based, in part, upon the following studies:

- *Phase I Environmental Site Assessment*, Apex Companies, LLC, May 12, 2018
- *Phase II Environmental Site Investigation*, Apex Companies, LLC, May 11, 2018

Complete copies of the Phase I and Phase II environmental site assessments (ESA) are in Appendices E and F, respectively.

5.6.1 Environmental Setting

5.6.1.1 AGENCIES THAT REGULATE HAZARDOUS MATERIALS

Hazardous materials are substances that exhibit corrosive, poisonous, 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, etc.) and manufacturing (e.g., of electronics, newspapers, plastic products, etc.). Examples of hazardous materials are petroleum, natural and synthetic gas, and other toxic chemicals that may be used in agriculture or 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, and industrial incidents.

The term "hazardous materials," as used in this section, includes all materials defined in the California Health and Safety Code:

> A material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (§§ 25411, 25501)

Federal and state hazardous waste definitions are similar, but different enough that separate classifications are in place for federal Resource Conservation and Recovery Act (RCRA) hazardous wastes and state non-RCRA hazardous wastes.

Federal Agencies

Several federal agencies regulate hazardous materials.

- **US Environmental Protection Agency.** The USEPA is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA develops and enforces regulations that implement

environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the RCRA and in cooperation with state and tribal partners, the Waste Management Division manages a hazardous waste program, an underground storage tank program, and a solid waste program, which includes development of waste reduction strategies such as recycling. The USEPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations.

- **Occupational Safety and Health Administration.** OSHA oversees administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from manufacturers. Material safety data sheets describe the risks associated with particular hazardous materials, and proper handling and procedures. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

- **US Department of Transportation.** The USDOT has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The US Postal Service has developed additional regulations for the transport of hazardous materials by mail. USDOT regulations specify packaging requirements for different types of materials.

State Agencies

Responsible state agencies that regulate hazardous materials and waste in accordance with the federal and state laws include:

- **California Environmental Protection Agency.** CalEPA was created in 1991 by Governor's Executive Order. Six boards, departments, and offices were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. CalEPA oversees hazardous materials and hazardous waste compliance throughout California. Among those responsible for hazardous materials and waste management are the Department of Toxic Substances Control, Department of Pesticide Regulation, and Office of Environmental Health Hazard Assessment. CalEPA also oversees the unified hazardous waste and hazardous materials management regulatory program (Unified Program), which consolidates and coordinates:

  - Hazardous Materials Release Response Plans and Inventories (Business Plans)
  - Underground Storage Tank Program
  - Aboveground Petroleum Storage Tank Act
  - Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs

- California Uniform Fire Code: Hazardous Material Management Plans and Inventory Statements
- California Accidental Release Prevention Program.

- **California Department of Toxic Substances Control.** DTSC is the department of CalEPA that carries out the RCRA and CERCLA programs in California to protect people from exposure to hazardous substances and 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 (Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, 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 Department of Forestry and Fire Protection.** CAL FIRE is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal (OSFM) supports CAL FIRE's mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. OSFM provides for fire prevention by enforcing fire-related laws in state-owned or -operated buildings; investigating arson fires; licensing those who inspect and service fire protection systems; approving fireworks for use in California; regulating the use of chemical flame retardants; evaluating building materials against fire safety standards; regulating hazardous liquid pipelines; and tracking incident statistics for local and state government emergency response agencies. The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CAL FIRE.

Regional Agencies

Responsible regional agencies that regulate hazardous materials and waste in accordance with the federal and state laws include:

- **Orange County Health Care Agency, Environmental Health Division**. The Environmental Health Division was designated as the Certified Unified Program Agency (CUPA) for the County of Orange, and the county and city fire agencies within the county have partnered with the CUPA as participating agencies. The Environmental Health Division administers all programs for the City of Brea. The CUPA is the local administrative agency that coordinates the regulation of hazardous materials and hazardous wastes in Orange County through six programs:

  - Hazardous Materials Disclosure
  - Business Emergency Plan
  - Hazardous Waste
  - Underground Storage Tank

- Aboveground Petroleum Storage Tank
- California Accidental Release Prevention

- **Orange County Fire Authority (OCFA)** is the agency that provides fire protection and emergency medical services for unincorporated areas of Orange County as well as 23 cities within the county that contract OCFA's services. Although the City of Brea is not contracted with OCFA, the Local Hazard Mitigation Plan prepared by the County of Orange and OCFA covers the City.

Local Agencies

Responsible local agencies that regulate hazardous materials and waste in accordance with the federal and state laws include:

- **Brea Fire Services Department.** The primary mission of the Brea Fire Services Department is the delivery of life services. The department provides 24-hour emergency response to a wide variety of critical situations, including fires and hazardous materials incidents. In addition, the department operates a very active Fire Prevention and Emergency Preparedness Program, which provides for fire inspections, hazardous process permitting, fire code enforcement, public education, and business emergency planning in accordance with the California Code of Regulations (Brea 2019).

5.6.1.2 REGULATORY BACKGROUND

Hazardous wastes require special handling and disposal because of their potential to impact public health and the environment. Some materials are designated "acutely" or "extremely" hazardous under relevant statutes and regulations. Hazardous materials and wastes can pose significant actual or potential hazards to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Many federal, state, and local programs regulate the use, storage, and transportation of hazardous materials and hazardous waste. These programs are designed to reduce the danger that hazardous substances may pose to people and businesses under normal, daily conditions and as a result of emergencies.

Federal

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

The RCRA of 1976 is the principal federal law enacted by Congress that regulates the generation, management, and transportation of waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. The RCRA gave the USEPA the authority to control hazardous waste from "cradle to grave," that is, from generation to transportation, treatment, storage, and disposal. The RCRA also set forth a framework for the management of nonhazardous

wastes. The 1986 amendments to RCRA enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that RCRA focuses only on active and future facilities and does not address abandoned or historical sites.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, 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. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites, required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations, provided new enforcement authorities and settlement tools, increased state involvement in every phase of the Superfund program, increased the focus on human health problems posed by hazardous waste sites, encouraged greater citizen participation in site cleanup decisions, and increased the size of the trust fund to $8.5 billion. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priority List of Superfund sites.

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted by Congress as the national legislation on community safety. This law helps local communities protect public health, safety, and the environment from chemical hazards. The primary purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored onsite to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies.

Section 3131 of EPCRA requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals, report offsite transfers of waste for treatment or disposal at separate facilities, develop pollution prevention measures and activities, and participate in chemical recycling. These annual reports are submitted to the USEPA and state agencies. EPCRA Sections 301 through 312 are administered by the USEPA's Office of Emergency Management. The USEPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, SARA Title III is implemented through the California Accidental Release Prevention Program.

The USEPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online, publicly available, national digital database is called the Toxics Release Inventory and was expanded by the Pollution Prevention Act of 1990.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 requires state and local governments to prepare mitigation plans that identify hazards, potential losses, mitigation needs, goals, and strategies. It is intended to facilitate cooperation between state and local governments.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced by or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of any that may pose an environmental or human health hazard. It can ban the manufacture and import of chemicals that pose an unreasonable risk. Also, the USEPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can control these chemicals as necessary to protect human health and the environment. The act supplements other federal statutes, including the Clean Air Act and the Toxics Release Inventory under EPCRA.

Hazardous Materials Transportation Act

The USDOT regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations (CFR). 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. These agencies also govern permitting for hazardous materials transportation. Title 49 CFR 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 and the American Red Cross that: 1) 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; 2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and 3) 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.

Occupational Safety and Health Administration Regulation 29 CFR Standard 1926.62

The OSHA Regulation 29 CFR Standard 1926.62 regulates the demolition, renovation, or construction of buildings involving lead materials. It includes requirements for the safe removal and disposal of lead and the safe demolition of buildings containing lead-based paint or other lead materials.

State

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and California Code of Regulations (CCR), Title 19, Section 2729 describe 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 material inventory disclosing hazardous materials stored, used, or handled onsite. A business that uses hazardous materials, or mixtures containing them, in certain quantities must establish and implement a business plan.

Tanner Act (Assembly Bill 2948)

Although numerous state policies deal with hazardous waste, the most comprehensive is the Tanner Act (Assembly Bill 2948), which was adopted in 1986. The Tanner Act governs the preparation of hazardous waste management plans and the siting of hazardous waste facilities in California. To be in compliance with the Tanner Act, local or regional hazardous waste management plans need to include provisions that define 1) the planning process for waste management, 2) the permit process for new and expanded facilities, and 3) the appeals process to the state available for certain local decisions.

California Building Code

The state of California provided a minimum standard for building design through the California Building Code (CBC), which is in Part 2 of Title 24 of the CCR. The CBC is based on the International Building Code, 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 city and county building officials for compliance with the CBC.

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the USEPA and OSHA, regulate removal, abatement, and transport procedures for asbestos-containing materials. Releases of asbestos from industrial, demolition, or construction activities are prohibited by:

- South Coast Air Quality Management District's Rule 1403
- California Health and Safety Code (Section 39650 et seq.)
- California Code of Regulations (Title 8, Section 1529)
- California Occupational Safety and Health Administration regulations (8 CCR Section 1529)
- Code of Federal Regulations (Title 40, Part 61; Title 40, Part 763, and Title 29, Part 1926).

Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations, and medical evaluation and medical evaluation and monitoring is required for employees performing activities

that could expose them to asbestos. Additionally, the regulations include warnings and practices to reduce risks of 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.

Lead-Based Paint

Section 1532 of 8 CCR is OSHA's "Lead in Construction" standard. The regulations address 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.

State Hazardous Waste Management Programs

Numerous state programs regulate hazardous waste management.

Underground Storage Tank Program

Releases of petroleum and other products from USTs are the leading source of groundwater contamination in the United States. The RCRA Subtitle I establishes regulations governing the storage of petroleum products and hazardous substances in USTs and the prevention and cleanup of leaks. In USEPA Region 9 (California, Arizona, Hawaii, Nevada, Pacific Islands, and over 140 tribal nations) the UST program operates primarily through state agency programs with USEPA oversight. In California, the State Water Resources Control Board (SWRCB), under the umbrella of CalEPA, provides assistance to local agencies enforcing UST requirements. The purpose of the UST program is to protect public health and safety and the environment from releases of petroleum and other hazardous substances. The program consists of four elements: leak prevention, cleanup, enforcement, and tank tester licensing. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs, including groundwater analytical data, the surveyed locations of monitoring wells, and other data. The SWRCB's GeoTracker system currently has information submitted by responsible parties for over 10,000 leaking UST (LUST) sites statewide and has been extended to include all SWRCB groundwater cleanup programs, including the LUST, non-LUST (Spill, Leaks, Investigation, and Cleanup), Department of Defense, and landfill programs.

The Orange County Environmental Health Division is charged with the responsibility of conducting compliance inspections of regulated facilities in Orange County. Regulated facilities are those that handle hazardous materials, generate or treat hazardous waste, and/or operate an UST. All new installations of USTs require an inspection, as do removals of the old tanks under a strict, chain-of-custody protocol.

Hazardous Materials Disclosure Programs

Both the federal government (CFR, USEPA, SARA, and Title III) and the state (Health and Safety Code, Division 20, Chapter 6.95, §§ 25500–25520; 19 CCR, Chapter 2, Subchapter 3, Article 4, §§ 2729–2734) require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, to submit a hazardous materials emergency/contingency plan (also known as a hazardous materials business plan) to their local CUPA. The responsible CUPA in

Orange County is the Orange County Environmental Health Division, which is responsible for conducting compliance inspections of regulated facilities in Brea.

The hazardous materials business plan includes the business owner/operator identification page, hazardous materials inventory chemical description page, and an emergency response plan and training plan. Business plans must include an inventory of the hazardous materials at the facility. The entire hazardous materials business plan needs to be reviewed and recertified every three years. Business plans are required to include emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. These plans need to identify the procedures to follow for immediate notification to all appropriate agencies and personnel of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information for all emergency coordinators of the business, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel. All facilities must keep a copy of their plan onsite.

Hazardous materials business plans are designed to be used by responding agencies, such as the Brea Fire Department, during a release or spill to allow for a quick and accurate evaluation of each situation for appropriate response. Businesses that handle hazardous materials are required by law to provide an immediate verbal report of any release or threatened release of hazardous materials if there is a reasonable belief that the release or threatened release poses a significant present or potential hazard to human health and safety, property, or the environment. If a release involves a hazardous substance listed in Title 40 of the CFR in an amount equal to or exceeding the reportable quantity for that material, a notice must be filed with the California Office of Emergency Services within 15 days of the incident.

Hazardous Materials Incident Response

Under Title III of SARA, the Local Emergency Planning Committee (LEPC) is responsible for developing an emergency plan for preparing for and responding to chemical emergencies in that community. The State Emergency Response Commission (SERC) established six emergency planning districts. The SERC appointed a LEPC for each planning district and supervises and coordinates their activities.

The emergency plan developed by the LEPCs must include:

- An identification of local facilities and transportation routes where hazardous materials are present.
- The procedures for immediate response in case of an accident (this must include a community-wide evacuation plan).
- A plan for notifying the community that an incident has occurred.
- The names of response coordinators at local facilities.
- A plan for conducting exercises to test the plan.

The plan is reviewed by the SERC and publicized throughout the community. The LEPC is required to review, test, and update the plan each year.

Hazardous Material Spill/Release Notification Guidance

All significant spills, releases, or threatened releases of hazardous materials must be immediately reported. Federal and state emergency notification are required for all significant releases of hazardous materials. Requirements for immediate notification of all significant spills or threatened releases cover owners, operators, persons in charge, and employers. Notification is required regarding significant releases from facilities, vehicles, vessels, pipelines, and railroads. The following state statutes require emergency notification of a hazardous chemical release:

- Health and Safety Codes, Sections 25270.7, 25270.8, and 25507
- Vehicle Code, Section 23112.5
- Public Utilities Code, Section 7673 (PUC General Orders #22-B, 161)
- Government Code, Sections 51018, 8670.25.5(a)
- Water Code, Sections 13271, 13272
- California Labor Code, Section 6409.1(b)10.

In addition, all releases that result in injuries or workers harmfully exposed must be immediately reported to California OSHA (California Labor Code, Section 6409.1[b]). Additional reporting requirements are in the Safe Drinking Water and Toxic Enforcement Act of 1986, better known as Proposition 65, and Section 9030 of the California Labor Code.

California Accidental Release Prevention Program

The CalARP became effective on January 1, 1997, in response to Senate Bill 1889. CalARP replaced the California Risk Management and Prevention Program. Under CalARP, the Governor's Office of Emergency Services must adopt implementing regulations and seek delegation of the program from the USEPA. CalARP aims to be proactive and therefore requires businesses to prepare risk management plans, which are detailed engineering analyses of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. In most cases, local governments will have the lead role for working directly with businesses in this program. The Orange County Environmental Health Division is the CUPA designated as the administering agency for CalARP.

Regional

Asbestos Emissions from Demolition/Renovation Activities

South Coast Air Quality Management District (SCAQMD) Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) provides requirements for limiting asbestos emissions from building demolition and renovation activities.

Local Hazard Mitigation Plan

The County of Orange and County Fire Authority Local Hazard Mitigation Plan (LHMP) was approved by the Federal Emergency Management Agency in November 2015. The LHMP is a multi-jurisdiction plan developed jointly between the County of Orange, cities in Orange County, and the OCFA, a joint powers authority. The LHMP focuses on mitigating all natural hazards impacting unincorporated areas of the county as well as County- and OCFA-owned facilities. The City of Brea is a member of the Orange County Emergency Management Organization, which is a standing subcommittee of the Orange County Operational Executive Board, tasked with developing and reviewing plans across the county to ensure consistency.

Local

City of Brea General Plan

The City of Brea General Plan Chapter 6, Public Safety, includes goals and policies aimed at protecting the community from hazards associated with hazardous materials, wildland fires, flooding, seismic activity, and geologic conditions. Applicable policies include:

- **Policy PS-4.2.** Reduce the risks associated with ground transportation hazards.
- **Policy PS-4.3.** Work with responsible Federal, State, and County agencies to identify and regulate the disposal of toxic materials.
- **Policy PS-4.4.** Provide education and information to City residents regarding the proper use and disposal of household hazardous materials.

City of Brea Municipal Code

City of Brea Municipal Code Title 8, Health, Safety, and Welfare, provides for the preparation and carrying out of plans for the protection of people and property in the event of an emergency, as well as provides information on the storage, accumulation, collection, and disposal of refuse, trash, rubbish, solid waste, debris, other discarded materials, and recyclable materials. Title 8 includes the following chapters:

- **Chapter 8, Emergency Preparedness:** The purposes of this chapter are to provide for the preparation and carrying out of plans for the protection of persons and property within the city in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the city with all other public agencies, corporations, organizations and affected private persons.
- **Chapter 8.28, Solid Waste Collection:** This chapter provides regulations designed to eliminate or alleviate issues associated with storage, accumulation, collection and disposal of refuse, trash, rubbish, solid waste, debris and other discarded material, as well as recyclable material. Solid waste is a matter of great public concern, in that improper control of such matters creates a public nuisance, which may lead to air pollution, fire hazards, illegal dumping, vector breeding and infestation, and other problems affecting the health, welfare and safety of the residents of the city and adjacent communities.

City of Brea Emergency Preparedness Program

The City of Brea's Emergency Preparedness Program is coordinated by a professional emergency manager. The Emergency Preparedness Program consists of five elements:

- Development and maintenance of the City's Emergency Response Plan.
- Development and maintenance of the City's Emergency Operations Center.
- Coordination of preparedness, training, and exercises for city staff to be sure they are ready to respond to any emergency.
- Public education and outreach to the residents and businesses of Brea.
- Fund recovery following disasters.

5.6.1.3 EXISTING CONDITIONS

Historical and Existing Uses of the Site

According to aerial photographs and topographic maps, from 1896 through 1975 the project area was undeveloped; the project area appeared to be graded in 1975 (Apex 2018a). According to aerial photographs and topographic maps from 1980 to 2016, the project area was developed with the current Brea Mall commercial buildings and restaurants, generally in its current configuration (Apex 2018a). The mall opened its doors in 1977 (OCM 1977). According to the Phase I Environmental Site Assessment (ESA), the historic land uses of the site are not considered to be a recognized environmental condition (REC). The existing Brea Mall is developed with commercial uses and associated surface and garage parking.

Hazardous Sites

The Phase I ESA included a search of regulatory agency databases for documented environmental concerns on the project area and in close proximity to the site (see Appendix E). According to the Phase I ESA, the project area and surrounding properties were listed on the following sites:

- Federal RCRA Generators List (12 sites within 0.25 mile of the project area)
- State/Tribal Registered Storage Tank List (2 sites within 0.25 mile of the project area)

Project Area Listings

According to the Phase I ESA, the project area was listed on the California Environmental Reporting System (CERS) database as a chemical storage facility and as a hazardous waste generator between 2013 and 2016. Violations listed on this database included submitting an incorrect Hazardous Materials Business Plan, not submitting a Hazardous Materials Business Plan, not labeling containers, not maintaining manifests, and for a leaking bottle of acid (which was corrected during the inspection) (Apex 2018a). Due to the nature of the violations, they are not considered a REC.

The project area was listed on the HAZNET database for the generation of hazardous waste; waste reported to have been generated included off-specification aged or surplus organics and unspecified organic liquid mixture between 1995 and 2015. Based upon information presented in the database report, no violations were listed, and this listing is not considered a REC (Apex 2018a).

The project area was listed on the Historic HAZNET database as a hazardous waste generator, and waste reported to have been generated at the project area between 1989 and 1992 included paint sludge, unspecific aqueous solution, and halogenated solvents. No violations were listed, and based upon the status this listing is not considered a REC (Apex 2018a).

The project area was listed on the RCRA database as a small quantity waste generator, and violations were reported on the database for the site in 1992 and 1994. Specific information regarding the nature of violation was not included in the listing. Additionally, the project area was listed on the Delisted Tank database (Apex 2018a).

The Phase I ESA indicated that the operation of the Sears automotive service center since the late 1970s is a REC due to the presence of hydraulic lifts, floor drains, oil/water separator, and a former underground waste oil tank which could be possible sources of releases to the subsurface (Apex 2018a). Therefore, a Phase II Environmental Site Investigation was conducted for the Sears automotive service center.

Surrounding Properties Listings

The Phase I ESA included a limited discussion of the surrounding properties based upon a combination of proximity, reported violations or releases, and presumed groundwater flow direction. These listings are summarized as follows:

- **Tosco 76 Station #6356 at 1200 Imperial Highway** is located approximately 400 feet to the southeast and downgradient from the project area, and is listed on the LUST database. The facility experienced an unauthorized gasoline release that impacted groundwater and regulatory closure was granted in 2003. Based upon the status and downgradient location this facility is not considered a REC.

- **Firestone at 891 Imperial Highway** is located approximately 0.1 mile to the west and cross-gradient from the project area, and is listed on the LUST database. This facility experienced an unauthorized diesel fuel release that impacted soil, and regulatory closure was granted in 1995. Based upon the status and distance, this facility is not considered a REC.

- **City of Brea at 1 Civic Center** is located approximately 0.1 mile to the northeast and upgradient from the project area, and is listed on the LUST database. This facility experienced an unauthorized diesel fuel release that impacted groundwater. Regulatory closure was granted in 1991 and based upon the status and distance, this facility is not considered a REC.

- **Chevron at 700 Imperial Highway** is located approximately 0.25 mile to the west and cross-gradient from the project area, and is listed on the LUST database. This facility experienced an unauthorized

gasoline release that impacted groundwater and is currently an active case. Due to the distance and cross-gradient location, this facility is not considered a REC.

A total of 17 facilities that could not be mapped due to incomplete or incorrect address/geocoding information were listed in the database report; these sites were reviewed and determined not to be within the vicinity of the project area.

5.6.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment 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 or excessive noise for people residing or working in the project area.

H-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

H-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

5.6.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP HAZ-1 Any project-related hazardous materials and hazardous wastes will be transported to and/or from the project site in compliance with any applicable state and federal requirements, including the US Department of Transportation regulations listed in the Code of Federal Regulations (Title 49, Hazardous Materials Transportation Act); California Department of

Transportation standards; and the California Occupational Safety and Health Administration standards.

PPP HAZ-2 Any project-related hazardous waste generation, transportation, treatment, storage, and disposal will be conducted in compliance with the Subtitle C of the Resource Conservation and Recovery Act (Code of Federal Regulations, Title 40, Part 263), including the management of nonhazardous solid wastes and underground tanks storing petroleum and other hazardous substances. The proposed project will be designed and constructed in accordance with the regulations of the Orange County Environmental Health Department, which is the designated Certified Unified Program Agency and which implements state and federal regulations for the following programs: (1) Hazardous Waste Generator Program, (2) Hazardous Materials Release Response Plans and Inventory Program, (3) California Accidental Release Prevention, (4) Aboveground Storage Tank Program, and (5) Underground Storage Tank Program.

PPP HAZ-3 Any project-related demolition activities that have the potential to expose construction workers and/or the public to asbestos-containing materials or lead-based paint will be conducted in accordance with applicable regulations, including, but not limited to:

- South Coast Air Quality Management District's Rule 1403
- California Health and Safety Code (Section 39650 et seq.)
- California Code of Regulations (Title 8, Section 1529)
- California Occupational Safety and Health Administration regulations (California Code of Regulations, Title 8, Section 1529 [Asbestos] and Section 1532.1 [Lead])
- Code of Federal Regulations (Title 40, Part 61 [asbestos], Title 40, Part 763 [asbestos], and Title 29, Part 1926 [asbestos and lead])

PPP HAZ-4 The removal of other hazardous materials, such as polychlorinated biphenyls (PCBs), mercury-containing light ballast, and mold, will be completed in accordance with applicable regulations pursuant to 40 CFR 761 (PCBs), 40 CFR 273 (mercury-containing light ballast), and 29 CFR 1926 (molds) by workers with the hazardous waste operations and emergency response (HAZWOPER) training, as outlined in 29 CFR 1910.120 and 8 CCR 5192.

PPP HAZ-5 Any project-related new construction, excavations, and/or new utility lines within 10 feet or crossing existing high-pressure pipelines, natural gas/petroleum pipelines, or electrical lines greater than 60,000 volts will be designed and constructed in accordance with the California Code of Regulations (Title 8, Section 1541).

PPP HAZ-6 As part of the project review process, the City of Brea Police Department may require approval of an Emergency Evacuation and Response Plan in the event of an emergency at Brea Mall to address emergency response and access. Additional design features to address

the City of Brea Police Department's service standards will be incorporated as conditions of approval for the project.

5.6.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which were disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.6-1: Project construction and operations of the proposed project could involve the transport, use, and/or disposal of hazardous materials; however, compliance with existing local, state, and federal regulations would ensure impacts are minimized. [Threshold H-1]

Project construction would require small amounts of hazardous materials, including fuels, greases and other lubricants, and coatings such as paint. The handling, use, transport, and disposal of hazardous materials during the construction phase of the project would comply with existing regulations of several agencies—the USEPA, the Orange County Environmental Health Division, OSHA, California Division of Occupational Safety and Health, and USDOT.

The proposed project would include residential and commercial uses. Project maintenance and operation may require the use of cleaners, solvents, paints, and other custodial products that are potentially hazardous. These materials would be used in relatively small quantities, clearly labeled, and stored in compliance with state and federal requirements. Moreover, the residents and employees of the proposed project may also use such products. With the exercise of normal safety practices, the proposed project would not create substantial hazards to the public or the environment. Therefore, a less than significant impact would occur.

Additionally, construction projects typically maintain supplies on-site for containing and cleaning small spills of hazardous materials. However, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Furthermore, project construction workers would be trained on the proper use, storage, and disposal of hazardous materials. Operation of the site would not warrant use of hazardous materials in quantities that could result in hazardous conditions. All on-site activities during construction and operation would be required to adhere to federal, state, and local regulations for the management and disposal of hazardous materials. Therefore, transport, use, and/or disposal of hazardous materials during construction of new developments in accordance with the proposed project would be properly managed, and impacts would be less than significant.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-1 would be less than significant.

IMPACT 5.6-2: Project construction activities may disturb contaminants in the soil associated with the site's former automotive center and could create a significant hazard to the public or the environment. [Threshold H-2]

Based on the Phase I ESA, one REC was identified on the project area. The automotive service center associated with Sears on the project area was in operation since the 1970s and was closed on January 27, 2018

(Apex 2018b). The hydraulic lifts, floor drains, oil/water separator, former waste oil UST, lawn mower service shop, and passenger and freight elevator hydraulic oil were analyzed for various hazardous substances including, but not limited to, total petroleum hydrocarbons (TPH), gasoline-range organics (GRO), polychlorinated biphenyls (PCBs), and VOCs (Apex 2018b).

According to the Phase II Environmental Site Investigation, the results of the soil samples are:

- **Hydraulic Lifts:** None of the TPH detections in the former hydraulic lift locations exceeded their respective Orange County Health Care Agency (OCHCA) cleanup levels; PCBs were not detected in any of the lift samples at or above the laboratory reporting limit.

- **Floor Drains:** None of the TPH-Diesel Range Organics (DRO) detections exceeded the OCHCA cleanup level; chromium, lead, nickel, and zinc were detected in all samples, and cadmium was detected in all but one sample. None of the metal detections exceed their respective health risk screening levels. None of the floor drain samples analyzed had reported detections of VOCs, Polycyclic Aromatic Hydrocarbons (PAHs), or PCBs at or above the laboratory reporting limit.

- **Oil/Water Separator:** There were no detections of PCBs, TPH-GRO, TPH-DRO, or TPH-Oil-Range Organics (ORO) for any of the samples at this location, except for one sample which exhibited TPH-ORO. One sample contained VOC; however, a health risk screening level has not been established for this constituent. Two reported PAH detections were detected in one soil sample; however, health risk screening levels have not been established for these constituents. Cadmium, chromium, lead, nickel, and zinc were detected in every sample; none of the metal detections exceed their respective health risk screening levels.

- **Former Waste Oil UST:** One soil sample detected TPH-ORO; additional soil samples analyzed TPH at depths of 9 and 12 feet below ground surface and had no reported laboratory detections. None of the TPH detections exceeded their respective OCHCA cleanup levels. None of the samples analyzed for VOCs, PCBs, or PAHs, had reported detections at or above their respective laboratory reporting limits. Cadmium, chromium, lead, nickel, and zinc were detected in every sample; none of the metal detections exceed their respective health risk screening levels.

- **Lawn Mower Service Shop:** TPH-GRO; TPH-DRO; TPH-ORO; Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX); and Methyl Tertiary Butyl Ether (MTBE) were analyzed, and none of these constituents were detected at or above their respective laboratory reporting limits.

- **Elevator Hydraulic Fluid:** Hydraulic oil samples were collected from the passenger elevator and freight elevator hydraulic oil reservoirs. PCBs were not detected at or above the laboratory limit in either sample.

As indicated in the Phase II Environmental Site Investigation, no further assessment is warranted because constituents found in the soil samples were below their respective health risk screening levels. However, because of the length of occupation and history of activities at the project area, there is the potential to encounter previously undetected areas of contaminated soil.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-2 would be potentially significant.

IMPACT 5.6-3: The project area is not within one-quarter mile of an existing school; the proposed project would not emit substantial quantities of hazardous emissions, and use of hazardous materials on-site would be regulated by existing local, state, and federal regulations. [Threshold H-3]

The project area is not within a one-quarter mile of a school; the nearest school to the project area is Laurel Elementary School approximately 0.4 mile west of the project area. Operation of the proposed project would not result in the release of hazardous emissions. No significant hazardous materials, substances, or wastes would be transported, used, or disposed of in conjunction with the proposed project's operation. The onsite use of hazardous materials at the project area would be restricted to cleaning solvents and paints used by facilities maintenance staff and cleaning solvents used by residents and employees of the proposed project. The materials used by facilities maintenance staff would be used in small quantities and stored in compliance with state and federal requirements. No significant impacts would affect occupants at schools proximate to the project area.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-3 would result in no impact.

IMPACT 5.6-4: The project area is on a list of hazardous materials sites; however, no existing violations are listed. [Threshold H-4]

The environmental regulatory records review conducted as part of the Phase I ESA searched the following databased to identify whether the project area was listed: Federal National Priorities Sites List (NPL), Federal Delisted NPL Sites, Federal CERCLIS Sites, Federal CERCLIS NFRAP Sites, Federal RCRA CORRACTS Facilities, Federal RCRA Non-CORRACTS TSD Facilities List, Federal RCRA Generators List, Federal Institutional Control/Engineering Control Registries (IC/EC), Federal Emergency Response Notification System (ERNS) List, State/Tribal-Equivalent NPL Sites, State/Tribal-Equivalent CERCLIS Sites, State/Tribal-Equivalent Landfill and Solid Waste Disposal Sites, State/Tribal-Equivalent Leaking Storage Tank (LUST) Sites, State/Tribal-Equivalent Spills Leaks Investigations and Cleanup (SLIC) List, State/Tribal Registered Storage Tank List, State/Tribal Voluntary Cleanup Sites (VCP), State/Tribal Brownfields Sites, State/Tribal Institutional Control/Engineering Control Registries (IC/EC).

Of these databases, the project area was listed on the Federal RCRA Generators List and the State/Tribal Registered Storage Tank List. The project area was also listed on the following databases: CERS, HAZNET, Historic HAZNET, RCRA, and Delisted Tank. As CERS, HAZNET, and Historic HAZNET did not consider the listing to be a REC, and specific information regarding the violation of the site was not listed on RCRA. Furthermore, the project area was not listed on EnviroStor or GeoTracker (DTSC 2019; SWRCB 2015). The project area's listing on these hazardous lists is less than significant.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-4 would be less than significant.

Impact 5.6-5: The project area is not in the vicinity of an airport or within the jurisdiction of an airport land use plan. [Threshold H-5]

The project area is not within an airport land use plan area or within two miles of a public use airport. The nearest public-use airport is the Fullerton Municipal Airport, approximately 5.7 miles southwest of the project area (Airnav 2019). Therefore, the proposed project would not result in a safety or noise hazard for people residing or working at the project area.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-5 would result in no impact.

Impact 5.6-6: Project development would not affect the implementation of an adopted emergency response or evacuation plan. [Threshold H-6]

The addition of project residents, visitors, and patrons would be expected to increase the volume of vehicles leaving the mall in the event of an emergency, which could impede emergency vehicles from attempting to get into the mall, this issue is discussed in the Section 5.12, *Transportation*.

The proposed project would not conflict with adopted emergency response or evacuation plans, as the City does not have an evacuation or response plan related to Brea Mall. The surrounding roadways would continue to provide emergency access to the project area and surrounding properties during construction and postconstruction. Based on the Brea Police Department's initial review, the City may require approval of an Emergency Evacuation and Response Plan that would be discussed during the project review process and incorporated as conditions of approvals, as identified in PPP HAZ-6. The proposed project would not result in inadequate emergency access. Therefore, impacts to adopted emergency response and evacuation plans are less than significant.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-6 would be less than significant.

Impact 5.6-7: The project area is not in a designated Very High Fire Hazard Severity Zone and would not expose structures and/or residences to fire danger. [Threshold H-7]

The project area is in a highly urbanized, built-out portion of the City of Brea. According to CAL FIRE, the project area is not within a Very High Fire Hazard Severity Zone (CAL FIRE 2011).

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.6-7 would result in no impact.

5.6.5 Cumulative Impacts

Past, existing, and planned development in the City could pose risks to public health and safety as they relate to the use, storage, handling, generation, transport, and disposal of hazardous materials and wastes. The proposed project and other development in the project vicinity could increase these risks if they are not remediated and/or managed properly in accordance with applicable regulations. Compliance with applicable regulations related to public health and safety and hazardous materials would ensure that impacts are reduced to a less than significant level, individually and cumulatively.

Other projects in the City of Brea would require assessments for hazardous materials, such as assessments of structures on-site (over certain ages) for lead-based paint, asbestos-containing materials, and other contamination from past uses and/or releases. Cleanup of hazardous materials in soil, soil vapor, and/or groundwater to regulatory cleanup levels for relevant types of land uses would be required in compliance with applicable federal, state, and regional regulations, as listed in Section 5.6.1.2. Therefore, the use, storage, transport, and disposal of hazardous materials by construction and operation of other projects would result in site-specific impacts and would be reduced to a less than significant level. Combined with the proposed project, impacts would not be cumulatively considerable.

5.6.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.6-1, 5.6-3, 5.6-4, 5.6-5, 5.6-6, and 5.6-7.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.6-2** Contaminants in the soil could be disturbed during construction activities.

5.6.7 Mitigation Measures

Impact 5.6-2

HAZ-1 Prior to issuance of grading permits, the project applicant shall prepare a soil management plan (SMP) to ensure safe and appropriate handling, transportation, offsite disposal, reporting, oversight, and protocols used during construction to protect the health and safety of workers and future residents. The SMP shall be submitted to the City prior to issuance of a grading permit. The plan shall establish methodology and procedures to perform additional testing during grading if unknown hazardous materials are encountered and prior to grading for the soil stockpile. If additional contamination is discovered during grading activities, grading within that area shall be temporarily halted and redirected around the area until the appropriate evaluation and follow-up remedial measures are implemented in accordance with the soil management plan so that the area is suitable for grading activities to resume. If hydrocarbon impacted soil is encountered soil samples shall be collected and analyzed for total petroleum hydrocarbons (TPH) by the Environmental Protection Agency (USEPA) Method 8015M and volatile organic compounds (VOCs) by EPA Method 8260B.

TPH results shall be compared to Orange County Health Care Agency TPH cleanup standards and VOCs shall be compared to screening levels as outlined in Department of Substances Control (DTSC) Human Health Risk Assessment Note No. 3 or EPA Regional Screening Levels (RSLs). Both DTSC and EPA RSLs are updated yearly and the most recent levels shall be used. If levels encountered are above the outlined screening levels, the OCHCA shall be notified. If soil remediation and/or export of hazardous materials is required, soil remediation must be performed in accordance with the appropriate agency requirements (Regional Water Quality Control Board, DTSC, South Coast Air Quality Management District).

5.6.8 Level of Significance After Mitigation

Impact 5.6-2

As indicated in the Phase II report, all soils tested were below the health risk screening thresholds. Therefore, the potential to encounter contaminated soils is low. However, because of the length of occupation and history of activities at the former Sears Automotive Center, there is still the potential to encounter previously undetected areas of contaminated soil. The project includes up to 38,320 cubic yards of soil export. Mitigation Measure HAZ-1 would ensure that contaminated soil, if encountered, is removed and transported offsite in accordance with existing federal and state laws. No significant unavoidable adverse impacts relating hazards have been identified.

5.6.9 References

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5.7 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in the City of Brea from implementation of the proposed Brea Mall Mixed Use Project. Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans, including habitat 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 sections of this DEIR.

5.7.1 Environmental Setting

5.7.1.1 REGULATORY BACKGROUND

Regional

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, San Bernardino, and Ventura counites. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the proposed project are discussed below.

Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, SCAG adopted the 2016-2040 RTP/SCS: A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life, which encompasses three principles, mobility, economy, and sustainability, that work as the key to the region's future. The 2016-2040 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play and how they will move around (SCAG 2016). SCAG recently released the 2020-2045 RTP/SCS (Draft Connect SocCal Plan) on November 7, 2019 (SCAG 2019).

Local

City of Brea General Plan

The land use section of the City of Brea General Plan Community Development Element defines the distribution of land uses and the intensity of development. The land use section provides goals and policies

that are used to guide implementation of land use objectives that provide for the present and future population:

- **Policy CD-1.2.** Maintain a land use structure that balances the provision of jobs and housing with available infrastructure and public and human services.
- **Policy CD-1.4.** Ensure that the City maintains a balance among residential, commercial, and industrial land uses.
- **Policy CD-1.5.** Provide opportunities for development of housing that responds to diverse community needs in terms of density, size, location, design, and cost.
- **Policy CD-1.7.** Create and maintain linked open spaces and pedestrian access that serve the entire community.
- **Policy CD-1.9.** Encourage new development that is organized around compact, walkable, mixed-use neighborhoods and districts to conserve open space resources, minimize infrastructure costs, and reduce reliance on the automobile.
- **Policy CD-1.11.** Maintain a mixture of business and retail uses within the community.
- **Policy CD-4.2.** Improve transportation, pedestrian, and visual connections between Brea Downtown and the rest of the community.
- **Policy CD-4.5.** Create large interactive and inviting public spaces.
- **Policy CD-4.6.** Build linkages between Downtown and the Civic Center/Brea Mall area.
- **Policy CD-5.1.** Ensure new development is compatible with the style, theme, and design of established structures and neighborhoods.

Moreover, the 2014-2021 Housing Element identifies strategies and programs that focus on the provision of housing, reduction of governmental constraints to housing production, and the support of existing and new housing which minimizes reliance on natural resources and automobile use.

- **Policy HE-3.1. Variety of Housing Choices.** Provide site opportunities for development of housing that responds to diverse community needs in terms of housing type, cost and location, emphasizing locations near services and transit that promote walkability.
- **Policy HE-3.3. Residential Mixed Use.** Promote the efficient use of land by encouraging commercial and residential uses on the same property in both horizontal and vertical mixed-use configurations.
- **Policy HE-3.4. Reuse Sites.** Explore reuse opportunities on obsolete or underutilized commercial and industrial sites.

- **Policy HE-4.2. Flexible Development Guidelines.** Provide flexibility in development/design guidelines to accommodate new models and approaches to providing housing, such as transit-oriented development, mixed-use, and live/work housing.

- **Policy HE-6.1. Smart Growth.** Preserve open space and environmental habitats, while accommodating new growth in compact forms in a manner that de-emphasizes the automobile. Evaluate expanded locations for mixed use development, focusing on sites along OCTA's future bus rapid transit (BRT) corridors.

- **Policy HE-6.4. Healthy Community.** Promote healthy living and physical activity through decisions in the location, site planning, and design of housing and mixed-use development.

- **Policy HE-6.5. Transportation Alternatives and Walkability.** Incorporate transit and other transportation alternatives including walking and bicycling into the design of new development, particularly in areas within a half-mile of designated transit stops and the City's "Tracks at Brea" walking and biking trail system.

- **Policy HE-6.6. Jobs/Housing Balance.** Encourage a closer link between housing and jobs in the community, including housing opportunities affordable to Brea's modest income workforce.

City of Brea Municipal Code

The City of Brea Zoning Code is designed to encourage the most appropriate use of land and to facilitate adequate provision for community facilities and utilities. Section 20.04.010 of the Municipal Code establishes zones for allowable uses. Chapter 20.232, C-C Major Shopping Center Zone, of the Brea Municipal Code, indicates that the intent of the C-C Zone is to provide for the development of large modern shopping center facilities to serve the community.

The intent of the PD Overlay, according to Chapter 20.260, PD Precise Development Zone, of the Brea Municipal Code, is to be applied as an additional zone classification to land zoned under any other zone classification of Title 20; areas zoned P-D shall be subject to compliance with an approved precise plan development including any conditions established by the Planning Commission.

Brea Envisions

In 2016, the City of Brea started Brea Envisions, a community visioning and strategic planning process. The goals of Brea Envisions were to better understand what residents value about the City and to use the information gathered through the process to develop a strategic plan that will help guide future planning, policy, capital improvement, and service-related decisions in a manner that is consistent with residents' shared vision for the City. The initiatives of Brea Envisions indicate that residents are focused on maintaining rather than changing the character of Brea, and preserving or enhancing existing qualities of the City. The proposed project is intended to fulfill the following Brea Envisions values and initiatives:

- **Value –** Balanced and Responsible Growth

- **Initiative 1:** Future growth is needed, but must be down in a way that keeps Brea's small town feel and community character.
- **Initiative 4:** Maintain a consistent and acceptable balance of both residential and commercial/industrial development.

5.7.1.2 EXISTING CONDITIONS

As shown in Figure 3-3, *Aerial Photograph*, the project area is developed with Brea Mall. The mall has 1,291,433 square feet of gross leasable area and a floor area ratio (FAR) of 0.43. The mall consists of a central retail core with anchors—Nordstrom (west side); JC Penney (north side); Macy's Men, Children, & Home (northeast side); and Macy's (southeast side). Surrounding the retail core are several free-standing retail structures ("outlot") along the Brea Mall Circle, including the Olive Garden, Red Lobster, and the Cheesecake Factory.[1]

The project area is surrounded by commercial, civic, and residential uses and is bounded by East Birch Street to the north, State College Boulevard to the east, Imperial Highway to the south, and South Randolph Avenue to the west. To the northwest of the mall is Embassy Suites by Hilton and the City of Brea Civic Center. Across East Birch Street, to the north, is the Brea Marketplace Shopping Center and associated parking lot. To the east of State College Boulevard is SR-57, the Brea Plaza Shopping Center, and residences. To the south of the mall and the outlot structures are restaurants and retail, a gas station, and Craig Regional Park, which are located south of Imperial Highway. To the west of the mall are retail and commercial uses including the Brea Mall Executive Plaza, the Brea Community Center, and United State Postal Service.

5.7.2 Thresholds of Significance

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

LU-1 Physically divide an established community.

LU-2 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

5.7.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP LU-1 As part of the project review process, the City of Brea is requiring that the Brea Mall prepare a parking management plan to address holiday traffic and parking during the peak

[1] There is a BJ's Restaurant at the corner of Imperial Highway and Randolph Avenue; however, the restaurant and its parking lot are a separate parcel not owned by the Simon Property Group or any of the retail anchors. Therefore, they are not considered part of the mall property.

holiday season. The requirement to prepare a submit a parking management plan for holiday traffic will be incorporated as conditions of approval for the project.

5.7.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which were disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.7-1: Project implementation would not divide an established community. [Threshold LU-1]

The project area, which is developed with Brea Mall, is in a highly developed area east of Brea Downtown and is surrounded by commercial and residential uses (see Figure 3-3, *Aerial Photograph*). The proposed project would not divide an established residential community. The following addresses impacts from the introduction of a residential project on a site with commercial uses.

On January 4, 2018, Sears announced that, as part of a plan to close 103 stores nationwide, it would close its store at the Brea Mall, which was an anchor on the southwest side. Sears closed in April 2018, and the first floor of that building is now leased by another retail store. The underutilized Sears building, associated auto center, and 12 acres of surface parking would be demolished to allow for a mix of uses on the project area. The proposed project would revitalize the former Sears parcel and introduce residential uses into an area that is primarily retail, hotel, and civic (institutional) center uses. The project area is surrounded by residential and commercial uses. The introduction of residential uses to the existing underutilized commercial site, which is surrounded by commercial and residential uses, would not divide an established community.

Therefore, the proposed project would improve the project area; project implementation would occur within the project boundaries and would not divide an established community.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.7-1 would be less than significant.

Impact 5.7-2: Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

City of Brea

General Plan

The General Plan land use designation for the site is Regional Commercial, which is intended for diversified commercial uses serving a wide regional market area. The proposed project would result in a change to the Mixed Use I (MU-I) designation, which provides areas for intense, mixed-use urban environments that offer opportunities for people to live, work, shop, and recreate without having to use their cars. The proposed project would be consistent with the Brea General Plan policies pertaining to mixed-use projects. For example, Policies CD-1.2 and HE-6.6 call for a balance between the provision of jobs and housing as well as a closer link between housing and jobs, and the project would include employment and residential uses in an

area surrounded by commercial, institutional, and residential uses. The proposed project would also be consistent with Policy HE-3.3, which calls for the efficient use of land by encouraging commercial and residential uses on the same property.

Policies CD-1.7, CD-4.5, and HE-6.4 call for creating large interactive open and public spaces and pedestrian access that serve the entire community and promote healthy living and physical activity, and the proposed project would include a central green and plaza that would be open to the public, as well as a fitness center. The project would construct an internal bike lane along the mall ring road with off-site bike and pedestrian connections to the plaza, which would be consistent with Policies CD-1.9, CD-4.2, and CD-4.6, which encourage new development to be walkable, mixed-use, and reduce the reliance on automobiles. The bike/pedestrian trail would also improve transportation and pedestrian connections between Downtown Brea and the rest of the community.

Policies HE-3.1, HE-4.2, HE-6.1, and HE-6.5 call for housing near services and transit, development/design guideline flexibility to accommodate mixed-use development, preservation of open space and de-emphasis of automobiles, and transportation alternatives in areas within a half-mile of designated transit stops. The Brea Mall transit center is located at the project area, and employment and housing would be within a half mile of transit. The proposed project's bike/pedestrian trail would de-emphasize the use of automobiles, and developing the proposed project on the underutilized site, as opposed to a vacant site, would preserve open space. Therefore, the proposed project would be consistent with the policies of the General Plan, and impacts would be less than significant.

Zoning

The project area is zoned C-C (Major Shopping Center Zone) with a P-D Precise Development overlay. The proposed project would require a general plan amendment and zone change to Mixed Use I for the 3.91-acre residential parcel and 35.00-acre parcel within the Brea Mall site that is affected as a result of development of the proposed project (see Figure 3-14, *Lot Line Adjustment*). In accordance with CEQA Guidelines, this analysis focuses on whether there would be any adverse physical environmental impact that might result from conflicting with the existing zoning.

The general plan amendment is required for redesignation of 38.91 acres of the Brea Mall from "C-C" (Major Shopping Center Zone) to MU-I (Mixed Use I). The residential density range for development in the MU- I zone is 12.1 to 50 units per acre and the maximum allowed FAR is 3.00. The acreage of the proposed residential parcel is approximately 3.91 acres; therefore, the project density on the 3.91-acre site is 80 units per acre. However, the MU-I zone allows for dwelling units-per-acre density to be applied to the project area rather than an individual parcel basis. While the residential density on the 3.91-acre site exceeds 50 units an acre, when averaged across the two proposed MU-I parcels, which total 38.91 acres, the residential averages at 8.0 units per acre.[2] The two MU-I parcels would have a total of 311,615 square feet of new retail construction, 382,994 square feet of residential buildings, and up to 519,619square feet of parking structures. As a result, the project would have a FAR less than 1.0.

[2] 312 units / 38.91-acre MU-I parcels = 8.0 units per acre. (35.00 acres + 3.91 acres= 38.91 acres, from Table 3-6)

The MU-I zone would limit vehicle trips by emphasizing pedestrian-related amenities in a horizontal and vertical integration of uses. The purpose of the MU- I zone is to provide areas for intense, mixed-use urban environments that offer opportunities for people to live, work, shop, and recreate without having to use their vehicles. Additionally, the proposed project would not conflict with the MU-I zone's maximum height restriction of 100 feet—the highest point of the residential building would be approximately 89 feet and 8 inches. The tallest nonresidential building is the retail parking structure, whose highest point would be 68 feet tall, which would also fall below the maximum height limit of the MU-I zone.

Development in the MU-I zone is required to provide a minimum of 75 square feet per dwelling unit of common residential open space and a minimum of 50 square feet per dwelling unit of private open space. Additionally, all improved building sites are required to have a minimum landscaped coverage of 15 percent of the net site area. The proposed project would include 1.5 acres of central green (open common area), 40,318 square feet of landscaped area, 15,600 square feet of private open space, and 32,909 square feet of common open space; therefore, the proposed project would meet or exceed the landscaping and open space requirements of the MU-I zone.

Parking

The project applicant is required to provide parking in accordance with the City's zoning requirements. Parking for the Brea Mall is currently provided based on the standards developed as part of the existing Development Agreement. The proposed project would be required to provide parking in accordance with this existing Development Agreement. However, the Brea Mall is proposing to reduce the parking rate for the proposed project. As such, the City is requiring a parking study be conducted to evaluate if the proposed parking is sufficient. Municipal Code Title 20, Division I, Section 20.08.040(D), Parking Space Requirements, details the required number of spaces for residential dwelling units based on the number and type of units, and for shopping centers based on square footage. Table 5.7-1, *Brea Mall Surface and Structure Parking,* identifies parking provided onsite.

The proposed project would provide a minimum of 539 and 6,160 vehicle parking spaces for the residential and commercial components of the proposed project, respectively. The parking, as proposed, would be analyzed and studied by the City. Parking for the proposed project would be required to meet City of Brea Municipal Code Section 20.08.040, Off-Street Parking and Loading, or the exceptions, as indicated in Section 20.08.040 (F), Exception or Modifications to Off-Street Parking Requirements, which state that exceptions or modifications to the provisions can be made if the requirements of this section are considered to be excessive in accordance with the following procedures:

- Any property owner, his or her authorized agent or the City may apply for exceptions to, or modifications of, the off-street parking regulations.
- Exceptions to, or modifications of the off-street parking requirements as they relate to shared parking and/or the location of off-street parking may be permitted subject to the approval of a conditional use permit application.

Table 5.7-1 Brea Mall Surface and Structure Parking

Residential Unit Type	Number of Units	Residential Parking Required under the City of Brea Municipal Code (spaces)		Parking Spaces Provided	
		Standard/Unit	Standard Required	Standard/Unit	Standard Required
Studio Units	35	1.50	53	1.50	53
One-Bedroom Units	162	1.75	284	1.50	243
Two-Bedroom Units	115	2	230	1.75	202
Total Residential Required	**312**	1.82	567	1.60	498
Guest Parking provided		0.2	63	0.10	31
Total Required		2.02	**630**	1.70	**530**
Total Provided				**1.70**	**539**
Parking Surplus/Shortage				**-91**	
Retail Square Footage		**Retail Parking Required under the City of Brea Municipal Code (spaces)**		**Parking Spaces Provided**	
		Standard/ 1,000 SF	Standard Required		
Total Brea Mall[1]	1,441,058	5.5	**7,926**	**6,160**	
Parking Surplus/Shortage				**-1,766**	

[1] Major Department Stores, Small Shops, and Outlots.

Pursuant to the City's regulations, the City of Brea would review the parking study and may impose additional conditions to ensure that the proposed parking demand of the proposed project is satisfied. Review by the City would ensure that the project would provide adequate parking and would not result in a physical impact on the environment.

SCAG 2016–2040 RTP/SCS Consistency

The proposed project is considered a project of regionwide significance under the criteria in SCAG's Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the CEQA Guidelines because the project would require a General Plan Amendment. A consistency analysis with SCAG's 2016–2040 SCAG RTP/SCS goals is warranted by SCAG. As described in Table 5.7-2, *SCAG's 2016–2040 RTP/SCS Consistency Analysis*, the proposed project is generally consistent with the overarching goals of the RTP/SCS. OCTA bus routes (see Section 5.12, *Transportation*) intersect at the Brea Mall transit center. The proposed project would result in high density housing and employment within a half mile of transit. Additionally, the proposed project would improve bike lanes and connectivity from the Brea Mall and residential areas to the City's civic center as well as to adjacent commercial and mixed-used properties on Birch Street. Thus, the proposed project is consistent with SCAG's RTP/SCS.

Table 5.7-2 SCAG's 2016–2040 RTP/SCS Consistency Analysis

Goals	Consistency Analysis
RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness.	**Consistent**. The proposed project would revitalize the Sears parcel following closure of the Sears anchor with commercial uses and higher quality amenities, putting the Brea Mall on-par with the top tier of newer high quality mixed-use environments in the broader Los Angeles and Orange County markets. The proposed project would result in additional employment and residential housing in Orange County; and thus, would be consistent with the RTP/SCS goals of improving regional economic development and competitiveness.
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region.	**Consistent.** The proposed project would improve bike lanes and connectivity from the Brea Mall and residential areas to the City's civic center as well as to adjacent commercial and mixed-used properties on Birch Street. To provide connectivity to the Class II bike lanes on Birch Street and State College Boulevard, the project proposes Class II bike lanes and/or sharrow bike lanes on the "ring road" and the signalized entries of the Brea Mall.
RTP/SCS G3: Ensure travel safety and reliability for all people and goods in the region.	**Consistent.** This goal is not directly applicable to the proposed project. However, as part of the project review process, the City of Brea Police Department may require approval of an Emergency Evacuation and Response Plan in the event of an emergency at Brea Mall to address emergency response and access.
RTP/SCS G4: Preserve and ensure a sustainable regional transportation system.	**Consistent.** This goal is not directly appliable to the proposed project. However, the proposed project would bike lanes and connectivity from the Brea Mall and residential areas to the City's civic center as well as to adjacent commercial and mixed-used properties on Birch Street. Additionally, the Brea Mall Transit Center, within the Brea Mall provides residents and employees and visitors the opportunity to utilize public transportation. Five OCTA bus routes operate in the vicinity of the project area on Birch Street and State College Boulevard (Route 57, Route 129, Route 143, Route 153, and Route 213). Bus stops are provided on Birch Street and State College Boulevard. Additionally, the Brea Mall has an onsite transit hub that facilitates transit use in Orange County.
RTP/SCS G5*:* Maximize the productivity of our transportation system.	**Consistent.** See response to RTP/SCS Goal G-4.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	**Consistent.** See also response to RTP/SCS Goal-G-4. Long-term emissions generated by the proposed project would not produce criteria air pollutants that exceed the South Coast Air Quality Management District's significance thresholds for project operations or construction activities. The proposed project is a mixed-use development. The goal of the Mixed Use I zone is to encourage limited vehicle trips by emphasizing pedestrian-related amenities in a horizontal and vertical integration of uses. The project would encourage active transportation. Pedestrian circulation would be provided via the existing sidewalk system and internal pedestrian pathways. The proposed project would improve walkability of the Brea Mall through existing and new pedestrian connections to the onsite and surrounding commercial and public facilities. The Brea Mall Transit Center, within the Brea Mall provides residents and employees and visitors the opportunity to utilize public transportation.
RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent.** The project would replace 1970 era structures with mixed-use residential and commercial structures. The new structures would be constructed to achieve the 2019 Building and Energy Efficiency Standards and would be substantially more energy efficient than structures that pre-date the creation of building and energy efficiency standards.
RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	**Consistent**. See responses to RTP/SCS Goals G4 and G6. The proposed project is a mixed-use development. The goal of the Mixed Use I zone is to encourage limited vehicle trips by emphasizing pedestrian-related amenities in a horizontal and vertical integration of uses. Therefore, the project would facilitate the use of non-motorized transportation.
RTP/SCS G9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Consistent.** This goal is not directly applicable to the proposed project. However, as part of the project review process, the City of Brea Police Department may require approval of an Emergency Evacuation and Response Plan in the event of an emergency at Brea Mall to address emergency response and access. Additionally, Mitigation Measure TRAFF-1 requires coordination between the City and Caltrans for improvements that would improve safety.

Source: SCAG 2016

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.7-2 would be less than significant.

5.7.5 Cumulative Impacts

Implementation of the proposed project, in conjunction with other cumulative development in accordance with the City's General Plan, could cause citywide land use and general planning impacts. Cumulative development projects in accordance with the City's General Plan would be subject to compliance with regional and local plans reviewed in this section. The development of the proposed project would take place within the footprint of the project site, and therefore, would not result in citywide land use and planning impacts. The proposed project would introduce residential dwelling units on the Brea Mall site, thereby providing dwelling units within walking distance to commercial and entertainment uses. The proposed project combined with related projects would not result in cumulatively considerable impacts to land use and planning.

5.7.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.7.7 Mitigation Measures

No mitigation measures are required.

5.7.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.9 References

Southern California Association of Governments (SCAG). 2016, April 7, 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life. http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx.

———. 2019. 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy or RTP/SCS (Draft Connect SoCal Plan). https://connectsocal.org/Pages/Connect-SoCal-Draft-Plan.aspx

5.8 NOISE

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Mall Mixed Use Project to result in noise impacts in the City of Brea. This section discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; evaluates potential noise and vibration impacts associated with the proposed plan; and provides mitigation to reduce noise impacts at sensitive receptor locations. This evaluation uses procedures and methodologies as specified by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) and is based in part on the noise modeling data in Appendix G of this DEIR.

5.8.1 Environmental Setting

5.8.1.1 NOISE AND VIBRATION FUNDAMENTALS

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." The following are brief definitions of terminology used in this section:

Technical Terminology

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (Leq); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level (Ln).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the

"median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Day-Night Sound Level (Ldn or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 pm to 10:00 pm and 10 dB from 10:00 pm to 7:00 am. For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive, that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second (1x10-6 in/sec).

Sound Fundamentals

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The

A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Sound Measurement

Sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, while 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8, and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24 hour level with the CNEL being only slightly more restrictive (i.e., higher).

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. Table 5.8-1, *Typical Noise Levels*, shows typical noise levels from familiar noise sources.

Table 5.8-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three 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		
	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.

Vibration Fundamentals

Vibration is an oscillating motion in the earth. Like noise, vibration is transmitted in waves, but in this case through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard. Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal, and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage and RMS (typically expressed in VdB) for potential annoyance. The units for PPV are normally inches per second (in/sec). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave

5.8.1.2 REGULATORY BACKGROUND

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, and municipalities in the state have established standards and ordinances to control noise.

Federal

US Department of Housing and Urban Development

The US Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted within the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings constructed under Title 24 standards typically provides in excess of 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

State

California Building Code

The California Building Code (CBC), Title 24, Part 2, Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric is evaluated as either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

Residential structures within the noise contours identified above require an acoustical analysis showing that the structure has been designed to limit intruding noise in the prescribed allowable levels. To comply with

these regulations, applicants of new the residential projects are required to submit an acoustical report in areas where noise and land use compatibility is a concern. The report is required to analyze exterior noise sources affecting the proposed dwelling site, predicted noise spectra at the exterior of the proposed dwelling structure considering present and future land usage, basis for the prediction (measured or obtained from published data), noise attenuation measures to be applied, and an analysis of the noise insulation effectiveness of the proposed construction showing that the prescribed interior noise level requirements are met. If interior allowable noise levels are met by requiring that windows be inoperable or closed, the design for the structure must also specify the means that will be employed to provide ventilation and cooling, if necessary, to provide a habitable interior environment.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Proposed projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

General Plan Guidelines

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels expressed in CNEL or L_{dn}. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. Local municipalities adopt these compatibility standards as part of their General Plan and modify them as appropriate for their local environmental setting. The City of Brea standards are discussed below.

Local Noise Standards

City of Brea General Plan

The Public Safety Chapter of the City of Brea General Plan includes noise goals and policies that aim to minimize the impact of noise sources found in the City. The relevant noise goals and policies are listed below:

- **Goal PS-9** Minimize the impact of point source noise and ambient noise levels throughout the community.

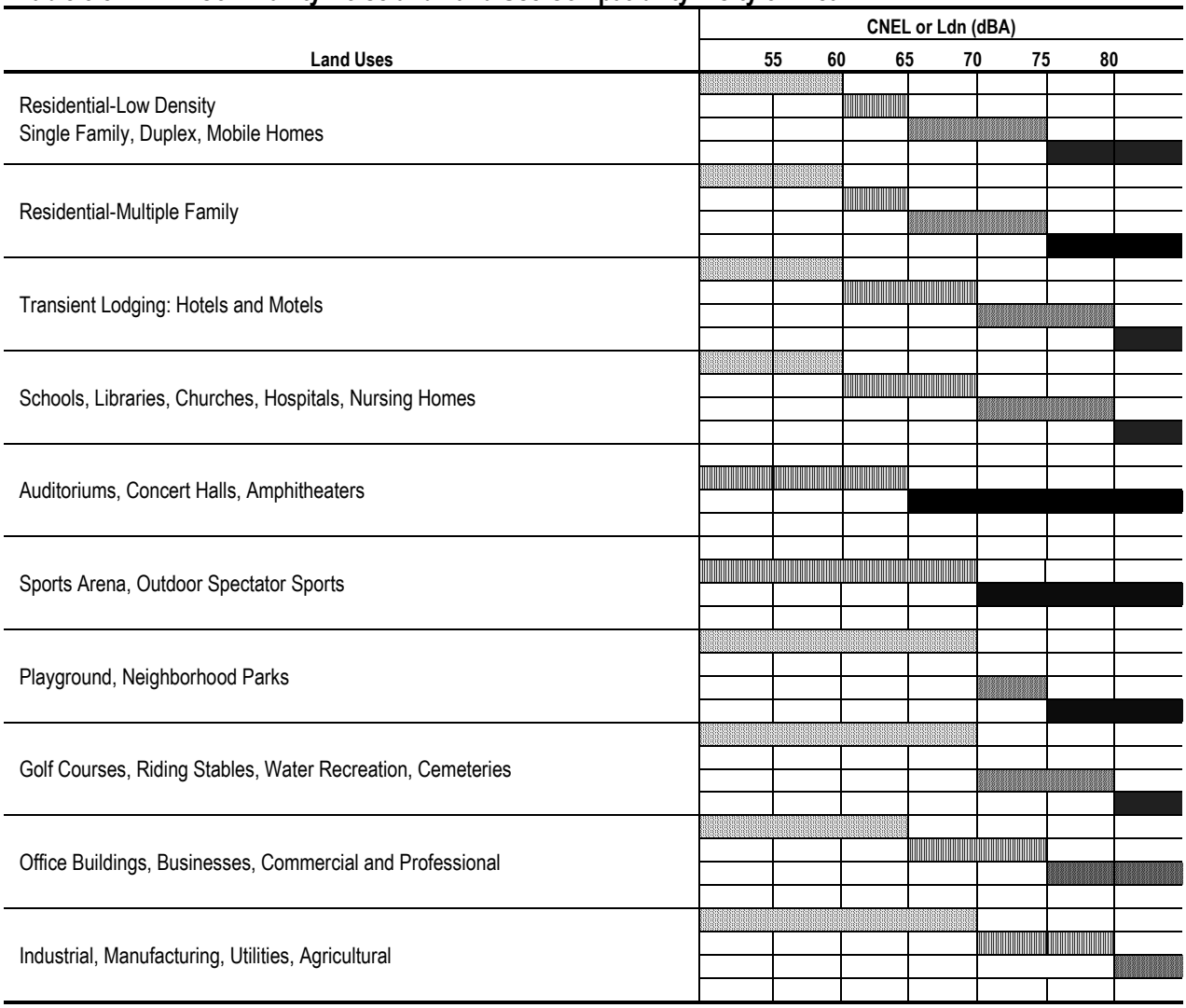
- **Policy PS-9.1** Evaluate the need to require acoustical studies for development proposals that address both direct and indirect, particularly traffic, noise impacts and require such studies, with appropriate mitigation included as warranted.
- **Policy PS-9.3** Ensure that acceptable noise levels are maintained near schools, hospitals, convalescent homes, and other noise sensitive areas in accordance with the City's Municipal Code and noise standards contained in the General Plan.
- **Policy PS-9.4** Employ creative methods of reducing noise pollution in the City.
- **Policy PS-9.5** Avoid placing high-noise activity centers near residential areas.

- **Goal PS-2** Minimize the impacts of transportation-related noise.
  - **Policy PS-2.1** Reduce transportation noise by imposing traffic restrictions where necessary.
- **Goal PS-3** Minimize noise impacts from sources other than transportation.
  - **Policy PS-3.1** Require the inclusion of noise mitigation measures, techniques, and design features in the planning, design, and construction of future development and redevelopment projects.
  - **Policy PS-3.2** Require that mixed-use structures be designed to prevent transfer of noise and vibration from commercial/retail to residential use.
  - **Policy PS-3.3** Minimize stationary noise sources and noise emanating from construction activities and special events.
  - **Policy PS-3.4** Require that new non-residential development plan delivery areas away from existing residential areas.
  - **Policy PS-3.5** Continue active enforcement to limit commercial and industrial delivery hours adjoining residential areas.

The City of Brea's primary goal is to minimize the exposure of residents to unhealthy and excessive noise levels. The City has adopted noise and land use compatibility guidelines, shown in Table 5.8-2, *Community Noise and Land Use Compatibility – City of Brea.*

5. Environmental Analysis
NOISE

Table 5.8-2 Community Noise and Land Use Compatibility – City of Brea



Explanatory Notes

Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings are of normal conventional construction, without any special noise insulation requirements

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: The City of Brea General Plan.

City of Brea Municipal Code

Chapter 8.20, *Noise Control,* provides exterior standards for all Zone 1 (entire territory of the City of Brea) residential properties. Table 5.8-3, *City of Brea Exterior Noise Standards*, summarizes allowable noise levels at the receiving property lines of residences. Per Section 8.20.090, the noise standards also apply to schools, hospitals, and churches while they are in use.

Table 5.8-3 City of Brea Exterior Noise Standards

Zone 1	Time Period	Exterior Noise Level, dBA				
		L_{50}[1]	L_{25}[2]	L_8[3]	L_2[4]	L_{max}[5]
Residential Daytime	7:00 AM–10:00 PM	55	60	65	70	75
Residential Nighttime	10:00 PM–7:00 AM	50	55	60	65	70

Source: City of Brea Municipal Code, Section 8.20.050 Exterior Noise Standards
Notes:
A 5 dBA penalty shall be applied in the event of an alleged offensive noise such as impact noise, simple tones, speech, music, or any combination of thereof.
The standards are based on the following:
1 The noise standard for a cumulative period of more than 30 minutes in any hour; or
2 The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
3 The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
4 The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
5 The noise standard plus 20 dBA for any period of time.

Under Section 8.20.070, Special Provisions, the following are exempt from the provisions of the Municipal Code:

- Noise associated with construction, repair, remodeling, or grading of any real property is exempt from the provisions of the Municipal Code, provided said activities do not take place between the hours of 7:00 P.M. and 7:00 A.M. on weekdays, including Saturday, or any time on Sunday or a federal holiday.

- Outdoor gatherings, public dances and shows, provided said events are conducted pursuant to a City permit are also exempt.

Per Section 20.20.040, ground vibration is limited to no greater than 0.003 inches/second (in/sec). This criterion is equivalent to approximately 70 VdB (root-mean-square vibration decibel level).

5.8.1.3 EXISTING CONDITIONS

The project area is near two highways along with local roadways. To the east is SR-57 and to the south is Imperial Highway SR-90. Randolph Avenue is adjacent to the west, and State College Boulevard is adjacent to the east. The noise environment is predominantly characterized by traffic noise.

Sensitive Receptors

Certain land uses, such as residences, schools, and hospitals, are particularly sensitive to noise and vibration. Sensitive receptors include residences, senior housing, schools, places of worship, and recreational areas. These uses are regarded as sensitive because they are where citizens most frequently engage in activities which

are likely to be disturbed by noise, such as reading, studying, sleeping, resting, working from home, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not particularly sensitive to noise or vibration.

The Brea Mall is west of SR-57 and north of Imperial Highway. The project area is surrounded by commercial/retail uses. The nearest sensitive receptors are:

- Embassy Suites by Hilton to the north
- Grace Covenant Community Church to the west
- Single-family residences to the west
- Maplewood Apartment Homes to the southwest
- Craig Regional Park to the south

5.8.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

N-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

N-2 Generation of excessive groundborne vibration or groundborne noise levels.

N-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

5.8.2.1 CONSTRUCTION NOISE THRESHOLDS

The City of Brea does not have an established noise threshold or standards for construction noise. The FTA provides criteria for daytime construction noise at receiving sensitive receptors and recommends a noise threshold of 80 dBA L_{eq}. The FTA criterion is used in this analysis.

5.8.2.2 TRANSPORTATION NOISE THRESHOLDS

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance are used to assess traffic noise impacts at sensitive receptor locations:

- 1.5 dBA or more increase for ambient noise environments of 65 dBA CNEL and higher.
- Up to 3 dBA increase for ambient noise environments of 60 to 64 CNEL.
- Up to 5 dBA increase for ambient noise environments of less than 60 dBA CNEL.

5.8.2.3 STATIONARY NOISE THRESHOLDS

As discussed above in Section 5.8.1.2, *Regulatory Background*, the City's noise ordinance establishes exterior noise levels at receiving residential Zone I property lines as well as schools, hospitals and churches. Noise levels in excess of these standards are considered potentially significant.

5.8.2.4 VIBRATION THRESHOLDS

Vibration Annoyance

The City of Brea establishes a threshold of 0.003 in/sec RMS for vibration at the sensitive receptor property line. This threshold is equivalent to 70 VdB, which will be used for this analysis.

Architectural Damage

The City of Brea does not have specific limits or thresholds for vibration-induced architectural damage related to construction activities. The FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings, and the FTA criteria are used in this analysis. Table 5.8-4, *Groundborne Vibration Criteria: Architectural Damage*, summarizes FTA criterion below.

Table 5.8-4 Groundborne Vibration Criteria: Architectural Damage

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018.
PPV = peak particle velocity

5.8.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP NOI-1 Project-related construction activity will be limited to the hours of 7:00 am to 7:00 pm on weekdays and Saturdays. Construction is prohibited on Sundays.

PPP NOI-2 The project will comply with City of Brea's stationary exterior noise standards summarized above in Table 5.8-3.

PPP NOI-3 The project will comply with the City of Brea's vibration standards of 70 VdB at the property line of the sensitive receptor.

PPP NOI-4 The residential development will comply with the California Building Code (CBC), Title 24, Part 2, Volume 1, Chapter 12, Interior Environment, Section 1207.11.2, Allowable Interior Noise Levels. Non-residential development will comply with the CBC, Title 24, Building Standards Administrative Code, Part 11, CALGreen.

PPP NOI-5 Outdoor nonresidential uses in mixed-use projects shall be prohibited from operating between the hours of 10:00 p.m. and 7:00 a.m. in accordance with Section 20.258.030 (H)(1) Hours of Operation.

PPP NOI-6 The covenants, conditions, and restrictions of a mixed-use project shall indicate the times when the loading and unloading of goods may occur on the street, provided that in no event shall loading or unloading take place after 10:00 p.m. or before 7:00 a.m. on any day of the week in accordance with Section 20.258.030 (H)(3) Loading and Unloading Activities.

PPP NOI-7 Residents of a mixed-use development project shall be notified in writing before taking up residence that they will be living in an urban type of environment and that the noise levels may be higher than a typical residential area. The covenants, conditions, and restrictions of a mixed-use project shall require that the residents acknowledge their receipt of the written noise notification. Their signatures shall confirm receipt and understanding of this information in accordance with Section 20.258.030 (H)(4) Noise Notification.

PPP NOI-8 Residential dwelling units shall be designed to be sound attenuated against present and future project noise. New projects or new nonresidential uses in existing projects shall provide an acoustical analysis report, by an acoustical engineer, describing the acoustical design features of the structure required to satisfy the exterior and interior noise standards in accordance with Section 20.258.030 (H)(6) Sound Mitigation.

PPP NOI-9 Noise-generating equipment. Noise-generating equipment (e.g., refrigeration units, air conditioning, exhaust fans, etc.) shall require special consideration in their location and screening in order to avoid creating a nuisance in accordance with Section 20.258.030 (K)(3) Noise Generating Equipment.

5.8.4 Environmental Impacts

5.8.4.1 METHODOLOGY

This noise evaluation was prepared in accordance with the requirements of CEQA to determine if the proposed project would result in significant construction and operational impacts at nearby sensitive receptors. Per *CBIA v. BAAQMD*, noise compatibility for on-site sensitive receptors is generally no longer

the purview of the CEQA. However, the City requires projects to be designed to achieve the interior noise standards of the noise insulation requirements of the California Green Building Standards Code for nonresidential uses and the California Building Code for residential uses, which require exterior-interior noise insulation sufficient to achieve interior noise levels of 45 dBA CNEL from sources such as traffic and loading dock noise affecting the residential portions of the proposed project. Construction noise modeling was conducting using the FHWA Roadway Construction Noise Model (RCNM). Traffic noise increases were estimated using average daily trips (ADT) segment volumes provided by Linscott Law & Greenspan, Engineers (see Appendix G). Noise impacts from nontransportation, stationary noise sources are based on the noise limits of the City of Brea Municipal Code.

5.8.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.8-1: Construction activities would result in temporary noise increases in the vicinity of the proposed project that would not exceed standards. [Threshold N-1]

Two types of short-term noise impacts could occur during construction: (1) mobile-source noise from transport of workers, material deliveries, and debris and soil haul and (2) stationary-source noise from use of construction equipment.

Construction Vehicles

The transport of workers and materials to and from the construction site would incrementally increase noise levels along roadways in the vicinity of the project area. Individual construction vehicle pass-bys and haul truck trips may create momentary noise levels of up to approximately 85 dBA (L_{max}) at 50 feet from the vehicle, but these occurrences would generally be infrequent and short lived.

Construction generates temporary worker and vendor trips and the number of trips vary by activity phase. Overlapping phases are anticipated to have up to 640 daily vendor and worker trips at their peak. Haul trips would have a maximum of 240 daily trips during site preparation soil haul for a 20 work-day duration. This increase in trips when compared to the existing average daily trips of 7,610 to 72,542 along nearby roadway segments in the project vicinity would have a negligible increase in terms of traffic noise. Therefore, noise impacts related to temporary construction vehicle trips would be less than significant.

Construction Equipment

Noise generated by on-site construction equipment is based on the type of equipment used, its location relative to sensitive receptors, and the timing and duration of noise-generating activities. Each phase of construction involves different types of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest several pieces of equipment. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable.

The noise produced at each construction phase is determined by combining the L_{eq} contributions from each piece of equipment used at a given time, while accounting for the ongoing time variations of noise emissions (commonly referred to as the usage factor). Heavy equipment, such as a dozer or a loader, can have maximum, short-duration noise levels of up to 85 dBA at 50 feet. However, overall noise emissions vary considerably, depending on what specific activity is being performed at any given moment.

Noise attenuation due to distance, the number and type of equipment, and the load and power requirements to accomplish tasks at each construction phase would result in different noise levels from construction activities at a given receptor. Since noise from construction equipment is intermittent and diminishes at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and shielding effects), the average noise levels at noise-sensitive receptors could vary considerably, because mobile construction equipment would move around the site with different loads and power requirements.

The proposed project would result in demolition and redevelopment of the up to 17.5-acre area. Construction is anticipated to start in the summer of 2020 and be completed by the summer of 2022, for a total duration of approximately 25 months. Construction equipment would include, but is not limited to, scrapers and graders for grading, excavators for utility installation, backhoes for foundation excavation, cranes and saws for construction of vertical buildings, paving machines, and plaster guns for interior and exterior coating (see Table 3-5, *Project Phasing*). Pile driving is not anticipated to be needed.

Construction comprises the following activity phases: building demolition, asphalt demolition, site preparation, mall podium construction, mall construction, sporting goods store construction, fitness center construction, residential podium construction, residential podium construction, paving, hardscape/landscape, architectural coating, and residential construction. The noise analysis divides the construction site into three main construction areas by use; retail/residential mix, fitness and pool, and mall/retail construction. Noise levels from project-related construction activities were calculated from the simultaneous use of all applicable construction equipment at spatially averaged distance from each building construction area (i.e., from the acoustical center of each proposed use). Although construction may occur across the entire phase area, the center of construction activities best represents the potential average construction-related noise levels at the various sensitive receptors. Tables 5.8-5 through 5.8-7 show estimated noise levels at the nearest sensitive receptors.

Mixed Use Residential Construction

As shown in Table 5.8-5, *Mixed-Use Residential Construction Noise*, construction noise would not exceed the 80 dBA L_{eq} at the nearest sensitive receptors. Noise levels in Table 5.8-5 are conservative because they do not take into account additional attenuation due to acoustical shielding from existing buildings between the project area and the residential homes to the west. Grace Covenant Church would also not experience noise levels greater than 80 dBA L_{eq}. In, addition construction would abide by the Brea Municipal Code's limited construction hours unless special permits are acquired. Therefore, Sunday service would not be subject to construction noise. Impacts would be less than significant.

Table 5.8-5 Mixed-Use Residential Construction Noise

Construction Activity Phase	Nearest Sensitive Receptors to Mixed-Use Residential Construction Area (dBA L_{eq})	
	Grace Covenant Community Church 500 feet west	Single-Family Homes 850 feet west
Building Demolition	64	60
Asphalt Demolition	60	55
Site Preparation	68	64
Building Construction[1]	65	61
Mall & Residential Podium Construction	65	60
Paving	64	59
Hardscape/Landscape	61	57
Architectural Coating	56	51

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix G.
Distances measured from the acoustical center of retail and residential mix construction acoustical center to sensitive receptor property line.
[1] Mall Construction, Dicks Sporting Goods Construction, Fitness Center Construction, and Residential Construction all have the same anticipated equipment mix and projected noise levels of 85 dBA L_{eq} at 50 feet.

Fitness Center and Pool Construction Noise

As shown in Table 5.8-6, *Fitness Center and Pool Construction Noise*, construction noise would not exceed 80 dBA L_{eq} at the nearest sensitive receptors. In addition, noise levels in Table 5.8-6 are conservative and does not take into account additional attenuation from existing buildings between the project area and the sensitive receptors to the south. Impacts would be less than significant.

Table 5.8-6 Fitness Center and Pool Construction Noise

Construction Activity Phase	Nearest Sensitive Receptors to Fitness Center and Pool Construction Area (dBA L_{eq})	
	Maplewood Apartments 1000 feet south	Craig Regional Park 920 feet south
Asphalt Demolition	54	55
Site Preparation	62	63
Building Construction[1]	59	60
Mall & Residential Podium Construction	59	60
Paving	58	58
Hardscape/Landscape	55	56
Architectural Coating	50	50

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix G.
Distances measured from the acoustical center of fitness and pool construction acoustical center to sensitive receptor property line.
[1] Mall Construction, Dicks Sporting Goods Construction, Fitness Center Construction, and Residential Construction all have the same anticipated equipment mix and projected noise levels of 85 dBA L_{eq} at 50 feet.

Mall Construction

As shown in Table 5.8-7, *Mall Construction Noise*, construction noise would not exceed 80 dBA L_{eq} at the nearest sensitive receptor. Noise levels in Table 5.8-7 are conservative and does not take into account

additional attenuation from existing buildings between the project area and the sensitive receptor to the north. Impacts would be less than significant.

Table 5.8-7 Mall Construction Noise

Construction Activity Phase	Nearest Sensitive Receptors to Mall Retail Construction Area (dBA L_{eq}) Embassy Suites Hotel Pool/Recreation Area 700 feet north
Building Demolition	58
Asphalt Demolition	54
Site Preparation	62
Building Construction[1]	59
Mall & Residential Podium Construction	59
Paving	58
Hardscape/Landscape	55
Architectural Coating	50

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix G.
Distances measured from the acoustical center of mall retail construction acoustical center to sensitive receptor property line.
[1] Mall Construction, Dicks Sporting Goods Construction, Lifestyle Fitness Center Construction, and Residential Construction all have the same anticipated equipment mix and projected noise levels of 85 dBA L_{eq} at 50 feet.

Level of Significance Before Mitigation: Less than significant.

Impact 5.8-2 Project implementation would result in long-term, operation-related noise that would not exceed standards. [Threshold N-1]

Stationary Noise

Outdoor Activities

The proposed project would have a gathering space that would include a central green space and plaza associated with the retail shops, restaurants, residences, and mall. This central green space would be approximately 1.5 acres and include play areas for children, seasonal outdoor sales, seating, and landscaping. The plaza would be approximately 0.3 acre and would be used for gatherings and annual events, such as an ice rink. This would be open to public as well as the residents.

Though the green space and plaza would generate outdoor noise, the nearest sensitive receptor (church) is approximately 750 feet from the green space and plaza. An ambient noise monitoring survey conducted by PlaceWorks staff during at a special event with amplified music—similar to events anticipated at the green space and plaza—found that noise levels were no more than 47 dBA at 1,200 feet (see Appendix G for noise monitoring data). At 750 feet during a special event, noise levels are estimated to be 51 dBA without accounting for acoustical shielding from the proposed buildings. The surrounding proposed structures would enclose the plaza and green space area providing acoustical shielding. The buildings would provide at least 5 dBA of attenuation by blocking line-of-sight to the off-site sensitive receptors (FHWA 2001). The proposed surrounding residential structures would be approximately 82 feet in height, which would provide a

substantial amount of attenuation. Noise levels are estimated to be 46 dBA or less at the nearest receptors. Special events would therefore comply with the Brea Municipal Code's noise limit of 50 dBA during daytime hours (7:00 am to 10:00 pm), including the 5 dBA penalty for music (Brea Municipal Code, Section 8.20.050), resulting in a less-than-significant impact. However, it should be noted under Section 8.20.070 of the Municipal Code, permitted outdoor gatherings, public dances, and shows are exempt from the exterior noise standards.

Other outdoor spaces would be residential outdoor amenities such as terraces, an outdoor lounge, courtyard, roof deck and amenity deck. This would be for residents and guests only and not open to the general public. Most noise would be associated to that of conversations. A typical conversation is about 60 dBA between two people at distance of 3 feet (Engineering ToolBox 2005). The nearest sensitive receptors are 300 and 700 feet to the west. At that distance, noise from residential outdoor amenities is expected to be inaudible over the existing ambient of traffic noise and other noise sources. Therefore, impacts would be less-than-significant.

Mechanical Equipment

The proposed project would have heating, ventilation, and air conditioning systems (HVAC). Typical HVAC equipment generates noise levels ranging up to 72 dBA at 3 feet. The nearest sensitive receptor would be Grace Covenant Community Church to the west, approximately 220 feet from the edge of the proposed mixed-use residential building. At that distance, HVAC noise would attenuate to approximately 35 dBA, which is below the City of Brea exterior noise level standards for both daytime and nighttime, and this impact would be less than significant.

Loading Docks

The Sears building that is proposed to be demolished has a loading dock with direct line of sight to the Grace Covenant Community Church (nearest sensitive receptor). The loading docks of the proposed buildings would be in the rear, acoustically shielded by future project development such as the retail, residential, and fitness center buildings. Therefore, proposed loading docks would result in less noise exposure to nearby sensitive receptors than under existing conditions. Loading dock noise impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Traffic Noise

The ADT volumes along roadway segments in the project area were provided by Linscott Law & Greenspan Engineers for the proposed project. To determine the permanent traffic noise level increase, the Existing With Project ADT volumes were compared to the Existing ADT volumes, as shown in Table 5.11-8, *Project-Related Increase in Traffic Noise*. The project-related noise increase was estimated to be 0.7 dBA or less on all traffic study roadway segments. Since the noise level increase due to project-generated traffic would be less than 1.5 dBA, the proposed project would not cause a substantial permanent noise level increase at surrounding noise-sensitive receptors.

Table 5.8-8 Project-Related Increase in Traffic Noise

Roadway Segment	Average Daily Traffic Volumes				Project Noise Increase (dBA)	Cumulative Noise Increase (dBA)	Project Contribution to Cumulative Increase (dBA)
	Existing	Existing With Project	Buildout Without Project	Buildout With Project			
Lambert Road, east of Berry Street	34,552	34,594	41,517	41,559	0	0.8	0
Lambert Road, east of Brea Boulevard	37,156	37,156	43,865	43,865	0	0.7	0
Lambert Road, west of Santa Fe Road/Kraemer Boulevard	33,433	33,507	39,005	39,079	0	0.7	0
Brea Boulevard, north of Birch Street	27,156	27,354	30,156	30,354	0	0.5	0
State College Boulevard, north of Birch Street	21,756	22,036	30,970	31,250	0.1	1.6	0
Kraemer Boulevard, south of Lambert Road	16,763	16,856	20,553	20,646	0	0.9	0
Birch Street, east of Brea Boulevard	17,868	18,126	21,469	21,727	0.1	0.8	0.1
Birch Street, east of Randolph Avenue	19,341	19,370	22,446	22,475	0	0.7	0
Birch Street, east of State College Boulevard	24,742	24,863	26,455	26,576	0	0.3	0
Birch Street, east of S Associated Road	24,245	24,366	26,850	26,971	0	0.5	0
Birch Street, east of N Associated Road	20,757	20,878	22,612	22,733	0	0.4	0
Randolph Street, south of Birch Street	7,610	8,872	8,230	9,492	0.7	1.0	0.6
State College Boulevard, south of Birch Street	13,577	13,950	17,764	18,137	0.1	1.3	0.1
Kraemer Boulevard, south of Birch Street	19,885	19,885	21,185	21,185	0	0.3	0
Imperial Highway, west of Puente Street	42,299	42,787	50,621	51,109	0	0.8	0
Imperial Highway, east of Berry Street	56,302	57,000	65,374	66,072	0.1	0.7	0
Imperial Highway, east of Brea Boulevard	53,549	54,696	63,371	64,518	0.1	0.8	0.1
Imperial Highway, east of State College Boulevard	72,542	74,272	81,614	83,344	0.1	0.6	0.1
Imperial Highway, east of SR-57 NB Ramps	53,855	54,683	60,697	61,525	0.1	0.6	0.1
Imperial Highway, east of Associated Road	51,706	52,378	59,297	59,969	0.1	0.6	0
Imperial Highway, east of Castlegate Lane/Placentia Avenue	51,786	52,187	57,893	58,294	0	0.5	0
Brea Boulevard, south of Imperial Highway	30,661	31,047	34,411	34,797	0.1	0.5	0
Kraemer Boulevard, south of Imperial Highway	19,886	19,886	21,839	21,839	0	0.4	0

Source: LLG 2020

Level of Significance Before Mitigation: Less than significant.

Impact 5.8-3: The project would not create excessive short-term or long-term groundborne vibration. [Threshold N-2]

Construction Vibration

Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during the demolition and grading phases of construction. Construction can

generate varying degrees of ground vibration depending on the construction procedures and equipment. Construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The effects from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures.

Vibration Annoyance

The City of Brea has established a vibration perceptibility threshold of 70 VdB, as discussed above in Section 5.8-2, *Regulatory Background*. Table 5.8-9, *Vibration Levels for Typical Construction Equipment*, shows VdB levels at a reference distance of 25 feet, as well as projected at a distance of 160 feet. At this distance, use of a vibratory roller could potentially exceed 70 VdB. Vibration levels at this distance would be lower for other types of construction equipment. Pile driving is not anticipated. The nearest sensitive receptor to a main construction area would be Grace Covenant Community Church, approximately 450 feet measured from the center of the construction area to the church property line. Therefore, vibration levels would attenuate to well below 70 VdB, and this would be a less-than-significant impact.

Table 5.8-9 Vibration Levels for Typical Construction Equipment

Equipment	Approximate VdB at 25 feet	Approximate VdB at 160 Feet
Vibratory Roller	94	70
Hoe Ram	87	63
Large Bulldozer	87	63
Caisson Drilling	87	63
Loaded Trucks	86	62
Jackhammer	79	55
Small Bulldozer	58	34

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment, September 2018.
Rounded up to the nearest whole number.

Architectural Damage

For reference, a peak particle velocity of 0.3 in/sec PPV is used as the limit for engineered concrete and masonry buildings (which would apply to the nearest surrounding structures) (FTA 2018). At a distance greater than 20 feet, construction-generated vibration levels at the buildings would be less than the 0.3 in/sec PPV. Table 5.8-10, *Vibration Impact Levels for Typical Construction Equipment*, shows potential impacts if a vibratory roller is operated within approximately 20 feet. The nearest off-site building is BJ's restaurant, approximately 75 feet southwest of the proposed project (measured from the edge of the construction site to the building façade). Since there are no structures within 20 feet of the construction site, potential architectural damage impacts due to vibration would be less than significant.

Table 5.8-10 Vibration Impact Levels for Typical Construction Equipment

Equipment	in/sec PPV Reference levels at 20 feet
Vibratory Roller	0.29
Large Bulldozer	0.124
Caisson Drilling	0.124
Loaded Trucks	0.106
Jackhammer	0.049
Small Bulldozer	0.004

Source: FTA 2018.
[1] As measured from the edge of Phase 1 construction site.

Level of Significance Before Mitigation: Less than significant.

Operational Vibration

The proposed project would have loading docks and operations similar to that of existing operations. Loading dock operations would not create substantial operational vibration. There are no sources of substantial groundborne vibration associated with the project, such as rail or subways. The proposed project would not create or cause any significant vibration impacts due to project operations. This impact would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Impact 5.8-4: The proximity of the project area to an airport or airstrip would not result in exposure of future residents or workers to excessive aircraft noise. [Threshold N-3]

The proposed project is approximately 5.7 miles southwest of the nearest public airport, Fullerton Municipal Airport, and no private airstrips are within 2 miles of the proposed project. Therefore, the project would not expose future residents or workers to excessive aircraft noise.

Level of Significance Before Mitigation: No impact.

5.8.5 Cumulative Impacts

Operational Noise and Vibration

The project's contribution to a significant cumulative traffic noise increase would be considered cumulatively considerable if it is calculated to be 1 dBA or more. As shown in Table 5.8-8, cumulative traffic noise increases, which compares the Buildout 2040 with Project traffic condition to Existing conditions, would be less than 1.5 dBA on all roadway segments except State College Boulevard north of Birch Street, where an increase of 1.6 dBA is estimated. Based on the City of Brea General Plan Noise Element's noise contours map (City of Brea 2019a), the ambient noise environment along this roadway segment is between 60 and 70

dBA CNEL. Therefore, a threshold of 1.5 dBA would apply, and the cumulative impact would be considered significant (see Section 5.8.2.2). However, as shown in Table 5.8-8, the project's contribution to this cumulative impact would be less than 0.1 dBA, which would be less than cumulatively considerable.

Construction Noise and Vibration

If construction of the project were to overlap with cumulative projects in the project vicinity, noise could combine to result in significant cumulative impacts. There are four projects within a mile of the proposed project. The Brea Place project is approximately 0.4 mile to the northeast, the Brea Plaza Expansion project is approximately 0.5 mile east and across SR-57, the CVS project is approximately 0.8 mile northwest, and the Downtown Hotel project is approximately 0.7 mile west. There are no cumulative projects in the immediate vicinity (i.e., 1,000 feet or less) of the proposed project. Therefore, the project would not contribute to a significant cumulative construction noise impact.

5.8.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.8-1, 5.8-2, 5.8-3, and 5.8-4.

5.8.7 Mitigation Measures

No mitigation measures needed.

5.8.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.8.9 References

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5.9 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (DEIR) examines the potential for socioeconomic impacts of the proposed Brea Mall Mixed Use project in the City of Brea, including changes in population, employment, and demand for housing, particularly housing cost/rent ranges defined as "affordable." According to Section 15382 of the CEQA Guidelines, "An economic or social change by itself shall not be considered a significant impact on the environment." Socioeconomic characteristics should be considered in an EIR only to the extent that they create impacts on the physical environment.

5.9.1 Environmental Setting

5.9.1.1 REGULATORY BACKGROUND

State

California Housing Element Law

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code Section 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department (HCD) estimates the relative share of California's projected population growth that would occur in each county based on California Department of Finance population projections and historical growth trends. These figures are compiled by HCD in a Regional Housing Needs Assessment (RHNA) for each region of California. Where there is a regional council of governments, the HCD provides the RHNA to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares gives cities and counties the opportunity to comment on the proposed allocations. The HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

State law recognizes the vital role local governments play in the supply and affordability of housing. To that end, California Government Code requires that the housing element achieve legislative goals to:

- Identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities.
- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes, including those with disabilities.
- Assist in the development of adequate housing to meet the needs of low and moderate income households.
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing. Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability.

- Preserve for lower income households the publicly assisted multifamily housing developments in each community.

California housing element laws (California Government Code §§ 65580–65589) require that each city and county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. The City of Brea General Plan Housing Element was updated in 2013 for the 2014–2021 cycle.

Housing Accountability Act

The Housing Accountability Act (HAA) requires that cities approve applications for residential development that are consistent with a city's general plan and zoning code development standards without reducing the proposed density. Examples of objective standards are those that are measurable and have clear criteria that are determined in advance, such as numerical setback, height limit, universal design, lot coverage requirement, or parking requirement. Under the HAA, an applicant is entitled to the full density allowed by the zoning and/or general plan provided the project complies with all objective general plan, zoning, and subdivision standards and provided that the full density proposed does not result in a specific, adverse impact on public health and safety and cannot be mitigated in any other way.

Assembly Bill (AB) 678 amends the HAA by increasing the documentation and standard of proof required for a local agency to legally defend its denial of low-to-moderate-income housing development projects. If the local agency considers the housing development project to be inconsistent, not in compliance, or not in conformity, this bill requires the local agency to give the applicant, within specified time periods, written documentation identifying the provision or provisions and an explanation of the reason or reasons it considers the housing development to be inconsistent, not in compliance, or not in conformity. If the local agency fails to provide this documentation, the housing development project is deemed consistent, compliant, and in conformity with the applicable plan, program, policy, ordinance, standard, requirement, or other similar provision.

AB 1515: Reasonable Person Standard

AB 1515 specifies that a housing development project is deemed consistent, compliant, and in conformity with an applicable plan, program, policy, ordinance, standard, requirement, or other similar provision if there is substantial evidence that would allow a reasonable person to conclude that the housing development project or emergency shelter is consistent, compliant, or in conformity. This bill added additional findings related to the Housing Accountability Act in this regard.

Senate Bill 330 (SB 330)

SB 330 Housing Crisis Act of 2019 states that until January 1, 2025 an application would be deemed complete if a preliminary application was submitted and it complied with the applicable objective general plan and zoning standards in effect at the time. The Planning and Zoning Law requires a public hearing be held on an application for a variance from the requirements of a zoning ordinance or an application for a conditional

use permit. However, this bill would prohibit any City or County from conducting more than five hearings held pursuant to these provisions if a housing development project complies with the applicable objective general plan and zoning standards in effect at the time an application is deemed complete. Additionally, this bill would reduce the time for which a lead agency can approve or disapprove a project from 120 days to 90 days.

Regional

Southern California Association of Governments

SCAG is a regional council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, which encompass over 38,000 square miles. SCAG is the federally recognized metropolitan planning organization (MPO) for this region and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. The City of Brea is within the Orange County Council of Governments subregion of SCAG.

Regional Transportation Plan/Sustainable Community Strategy

SCAG has developed regional plans to achieve specific regional objectives. On April 7, 2016, SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016–2040 RTP/SCS), a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals (SCAG 2016a). This long-range plan, which is a requirement of the state of California and the federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. A component of the 2016–2040 RTP/SCS is a set of growth forecasts that estimates employment, population, and housing growth. These estimates are used by SCAG, transportation agencies, and local agencies to anticipate and plan for growth.

Local

Development of housing in the City of Brea is guided by the goals, objectives, and policies of the general plan and housing element. The City of Brea General Plan includes the following policies on population and land use:

- **Policy HE-3.1. Variety of Housing Choices.** Provide site opportunities for development of housing that responds to diverse community needs in terms of housing type, cost and location, emphasizing locations near services and transit that promote walkability.
- **Policy HE-3.3. Residential Mixed Use.** Promote the efficient use of land by encouraging commercial and residential uses on the same property in both horizontal and vertical mixed-use configurations.

- **Policy HE-3.4. Reuse Sites.** Explore reuse opportunities on obsolete or underutilized commercial and industrial sites.

- **Policy HE-4.2. Flexible Development Guidelines.** Provide flexibility in development/design guidelines to accommodate new models and approaches to providing housing, such as transit-oriented development, mixed-use, and live/work housing.

- **Policy HE-6.1. Smart Growth.** Preserve open space and environmental habitats, while accommodating new growth in compact forms in a manner that de-emphasizes the automobile. Evaluate expanded locations for mixed use development, focusing on sites along OCTA's future bus rapid transit (BRT) corridors.

- **Policy HE-6.4. Healthy Community.** Promote healthy living and physical activity through decisions in the location, site planning, and design of housing and mixed-use development.

- **Policy HE-6.5. Transportation Alternatives and Walkability.** Incorporate transit and other transportation alternatives including walking and bicycling into the design of new development, particularly in areas within a half-mile of designated transit stops and the City's "Tracks at Brea" walking and biking trail system.

- **Policy HE-6.6. Jobs/Housing Balance.** Encourage a closer link between housing and jobs in the community, including housing opportunities affordable to Brea's modest income workforce.

5.9.1.2 EXISTING CONDITIONS

Population

Table 5.9-1, *Population Trends in the City of Brea,* shows the population trends and percent change in the City of Brea from 2009 through 2017.

Table 5.9-1 Population Trends in the City of Brea

Year	City of Brea	
	Population	Percent Change
2009	38,086	N/A
2010	38,427	0.89%
2011	38,837	1.06%
2012	39,384	1.40%
2013	39,843	1.16%
2014	40,443	1.50%
2015	40,931	1.20%
2016	41,351	1.02%
2017	41,921	1.37%

Source: US Census Bureau 2017a.

Housing

Housing Growth Trends

Table 5.9-2, *Housing Growth Trends in the City of Brea,* shows the rate of housing growth from 2009 to 2017, which has varied over the years.

Table 5.9-2 Housing Growth Trends in the City of Brea

	City of Brea	
Year	Housing Units	Percent Change
2009	14,596	N/A
2010	14,910	2.15%
2011	14,859	-0.34%
2012	14,620	-1.60%
2013	14,759	0.95%
2014	14,760	<1%
2015	14,820	0.40%
2016	15,205	2.59%
2017	15,616	2.70%

Source: US Census Bureau 2017b.

Regional Housing Needs Assessment

As shown in Table 5.9-3, *City of Brea 2014–2021 RHNA*, Brea's RHNA allocation for the 2014–2021 planning period is 1,851 units. This number was calculated by SCAG based on the City's share of the region's employment growth, migration and immigration trends, and birth rates.

Table 5.9-3 City of Brea 2014–2021 RHNA

Income Category (% of County AMI[1])	Number of Units	Percentage
Extremely Low Income (30% or less)[2]	213	11.5%
Very Low (31% to 50%)	213	11.5%
Low (51% to 80%)	305	17%
Moderate (81% to 120%)	335	18%
Above Moderate (Over 120%)	785	42%
Total	**1,851**	**100%**

Source: Brea 2013.
[1] AMI = Area Median Income
[2] An estimated half of the City's 426 very low income housing needs (213 units) are for extremely low income households earning less than 30% AMI.

Employment

Employment Trends

According to the California Employment Development Department, the average employment rate in Brea increased throughout 2010 to 2018. The average annual employment rate and percent changes are shown in Table 5.9-4, *City of Brea Average Employment Trends.*

Table 5.9-4 City of Brea Average Employment Trends

	City of Brea	
Year	Employment (persons)	Percent Change
2010	19,000	N/A
2011	19,200	1.05%
2012	19,600	2.08%
2013	20,100	2.55%
2014	20,500	1.99%
2015	21,000	2.44%
2016	21,500	2.38%
2017	21,800	1.40%
2018	22,100	1.38%

Source: EDD 2019.

Existing Employment

Table 5.9-5, *City of Brea, Industry by Occupation (2009–2017)*, shows the City's total workforce by occupation and industry between 2009 and 2017. According to the estimates calculated by the US Census, Brea had an employed civilian labor force (16 years and older) of 181,617 between 2009 and 2017. The three largest occupational categories during the 2009 to 2017 period were educational services, and health care and social assistance; manufacturing; and professional, scientific, and management, and administrative and waste management services.

Table 5.9-5 City of Brea, Industry by Occupation (2009–2017)

Industry/Occupation	Number	Percent
Agriculture, forestry, fishing and hunting, and mining	796	0.44%
Construction	9,520	5.24%
Manufacturing	21,788	12.00%
Wholesale Trade	8,830	4.86%
Retail trade	19,517	10.75%
Transportation and warehousing, and utilities	6,571	3.62%
Information	4,360	2.40%
Finance and insurance, and real estate and rental and leasing	17,921	9.87%
Professional, scientific, and management, and administrative and waste management services	20,520	11.30%
Educational services, and health care and social assistance	42,357	23.32%
Arts, entertainment, and recreation, and accommodation and food services	13,623	7.50%
Other services, except public administration	8,172	4.50%
Public administration	7,642	4.21%
Total	**181,617**	**100%**

Source: US Census Bureau 2017c.
Note: Numbers in column 2 were rounded up to the nearest whole number. Employment figures count civilian employees 16 years and older.

Growth Projections

Southern California Association of Governments

SCAG undertakes comprehensive regional planning with an emphasis on transportation. The 2016–2040 RTP/SCS provides projections of population, households, and total employment for the City of Brea. Based on their share of California's and the region's employment growth, migration and immigration trends, and birth rates, SCAG projects that population, housing, and employment will grow at an increasing rate in Brea. These projections are summarized in Table 5.9-6, *SCAG Growth Projections for the City of Brea*.

Table 5.9-6 SCAG Growth Projections for the City of Brea

	City of Brea		
	2020	2035	2040
Population	48,700	50,600	50,600
Households	17,300	18,100	18,100
Housing Units[1]	16,435	17,195	17,195
Employment	51,800	53,400	53,700
Jobs-Housing Ratio	3.15	3.10	3.12

Source: SCAG 2016b.
[1] Housing units in SCAG projections are estimated based on number of households and a healthy vacancy rate of 5 percent.

Jobs-Housing Ratio

The jobs-housing ratio is a general measure of the number of jobs versus housing in a defined geographic area, without regard to economic constraints or individual preferences. The jobs-housing ratio, as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. A project's effect on the jobs-housing ratio is one indicator of how it will affect growth and quality of life in the project area. SCAG applies the jobs-housing ratio at the regional and subregional levels in order to analyze the fit between jobs, housing, and infrastructure. A main focus of SCAG's regional planning efforts has been to improve this balance; however, jobs-housing goals and ratios are only advisory. There is no ideal jobs-housing ratio adopted in state, regional, or city policies. The American Planning Association is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although it recognizes that an ideal jobs-housing ratio will vary across jurisdictions, it recommends a target of 1.5 and a range of 1.3 to 1.7 (Weitz 2003).

As shown in Table 5.9-6, based on SCAG's growth projections, the City of Brea is projected to be a jobs-rich community, with the number of jobs increasing at a faster rate than the number of housing units.

5.9.2 Thresholds of Significance

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

P-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

P-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

5.9.3 Plans, Programs, and Policies

No existing regulations are applicable to population and housing impacts of the proposed project.

5.9.4 Environmental Impacts

Impact 5.9-1: The proposed project would directly result in population growth of approximately 565 residents and 213 employees in the project area but would not induce substantial additional growth. [Threshold P-1]

The following describes potential impacts associated with construction and operation of 312 dwelling units and an increase in 149,625 square feet of gross leasable area.

Construction

Construction of the proposed project would require contractors and laborers. Because of the size of the project, the City expects that the supply of general construction labor would be available from the local and regional labor pool. The proposed project would not result in a long-term increase in employment from short-term construction activities.

Population

Based on the US Census American Community Survey,[1] the weighted average household size in the City of Brea, for renters who live in structures with 50 or more units, is 2.01 persons (US Census 2017d, 2017e). This weighted average was further refined and reduced by 10 percent to account for the proposed project's lower bedroom count (0 to 2 bedrooms per unit).[2] The DEIR uses this conservative estimate of 1.81 persons per unit to forecast the number of people generated by the proposed project.

Once the proposed project is complete, the 312 dwelling units would be expected to add 565 residents. When compared to the 2019 estimated population of 45,606, the proposed project would result in an approximately 1.24 percent increase in population in the City of Brea (DOF 2019).

As shown in Table 5.9-6, SCAG's 2040 estimated population for the City of Brea is 50,600, which is an increase of 4,994 residents from the 2019 estimated population of 45,606 residents. The potential 565 new residents of the proposed project would comprise approximately 11.3 percent of the projected 20-year increase for the City based on the SCAG RTP/SCS. The SCAG projections estimate a 2020 population of 48,700 for the City, which is an increase of 3,094 residents from the 2019 population estimate. If the project population is added to the existing population estimate, the resulting estimated population of 46,171 remains below the year 2020 projection.[3] Therefore, project implementation would not exceed SCAG population projections.

Employment

The proposed project would result in an increase of 149,625 increase in the mall's total gross leasable area and would be expected to add 213 employees, as shown in Table 5.9-7, *Project Population and Employment Estimates*.[4] When compared to the citywide 2019 estimated employment of 22,086 employees,[5] the proposed project would result in an approximately 0.96 percent increase in employees in the City of Brea (EDD 2019).

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1 Using a combination of Table B25124, *Tenure by household size by units in structure*, and Table S2504, *Physical housing characteristics for occupied housing units,* of the US Census Bureau.

2 The 10 percent reduction factor was generated from data in Table S2504 of the US Census Bureau, which identifies the number of units by bedroom count by tenure. While an exact figure was not available, approximately 34 percent of rental households have 3 or more bedrooms, and over half of all rental units are within structures that contain 10 or more apartment units. At least 8.5 percent of occupied rental housing units have 4 or more bedrooms. Accordingly, 8.5 percent to 34 percent of occupied rental units that are larger (3 or more bedrooms compared to the proposed project's range of 0 to 2 bedrooms) contributes to a larger weighted average household size in Table B25124. A conservative 10 percent reduction factor is applied to generate an appropriate estimated household size for the proposed project.

3 Note that all of these figures assume residents new to the City.

4 704 square feet per employee (SCAG 2001) x 149,625 square feet = 212.5 employees = 213 employees

As shown in Table 5.9-6, SCAG's 2040 estimated employment for the City of Brea is 53,700, which is an increase of 31,614 employees from the 2019 estimated employment of 22,086 employees. The potential 213 new employees of the proposed project would comprise approximately 0.67 percent of the projected 20-year increase for the City based on the SCAG RTP/SCS. If the project employment is added to the existing employment estimate, the resulting estimated employment of 22,299 remains below the year 2020 projection.[6] Therefore, project implementation would not exceed SCAG employment projections.

Table 5.9-7 Project Population and Employment Estimates

	Brea Mall Mixed Use Project		
	Existing Brea Mall	Proposed Brea Mall	Net Change (Proposed Project)
Population[1]	0	565	565
Employees[2]	1,834	2,047	213

Source:
1 The weighted average household size in the City of Brea for renters who live in structures with 50 or more units, is 2.01 persons (US Census 2017d; US Census 2017e). This weighted average was further refined and reduced by 10 percent to account for the proposed project's lower bedroom count (0 to 2 bedrooms per unit).
2 Based on an average of 704 square feet per employee (SCAG 2001).

Housing

The proposed project would provide more housing opportunities in the City of Brea. The new units would increase housing in the City by 3.62 percent, and would represent approximately 74 percent of the City's forecast housing growth of 760 units from 2020 to 2040 (see Table 5.9-6). The proposed project would be within SCAG's projected housing growth. Moreover, the state of California has a shortage of housing. In 2019, Governor Newsom signed several bills aimed to address the need for more housing, including the Housing Crisis Act of 2019 (Senate Bill 330). The proposed project addresses the need for additional housing to accommodate population growth in the City.

Jobs-Housing Balance

A project's effect on the jobs-housing balance is an indicator of how it will affect growth and quality of life in the project area. Because the jobs-housing ratio for the City is jobs-rich (3.15 jobs per unit; see Table 5.9-6), the decrease in jobs-housing ratio from the additional 312 residential units would be a slightly favorable result from a planning perspective because the project would provide more housing in a City with high employment.

Summary

Overall, the project would not induce substantial population growth in the area, but would serve growth already projected to occur. Although the proposed project would increase the number of housing units, population, and employment within the City by 312 units, 565 residents, and 213 employees, the projected

5 Average number of employees from January 2019 to July 2019 (EDD 2019).
6 Note that all of these figures assume residents new to the City.

increases are less than the regionally anticipated growth and would help alleviate the state's housing shortage by providing high density housing proximate to Brea's employment centers.

Level of Significance Before Mitigation: Impact 5.9-1 would be less than significant.

Impact 5.9-2: Project implementation would not displace people and/or housing. [Threshold P-2]

The project area is currently developed with the existing Sears building and parking lot. The proposed project would result in the development of a mixed-use residential development on an up to 17.5-acre project area. According to the RHNA for the 2014-2021 Housing Element Cycle, the City's share of regional housing needs is 1,851 new units between 2014 and 2021. The proposed project would increase the number of housing units in the City by 312 units, increasing the City's housing supply. Therefore, the proposed project would not displace people or housing, but would increase the number of housing units in the City.

Level of Significance Before Mitigation: Impact 5.9-2 would not be significant.

5.9.5 Cumulative Impacts

The area considered for cumulative impacts is the City of Brea. Impacts are analyzed using General Plan projections in SCAG's 2016 RTP/SCS Growth Forecast. Development of the proposed project in conjunction with the related cumulative project list in Table 4-1, *Related Cumulative Projects,* in Chapter 4 of this DEIR, would not result in cumulative citywide population, housing, and/or employment impacts because new residential projects would further improve the jobs-housing balance in the City. Additionally, related projects would be reviewed by the City, and development would be required to be consistent with adopted state and City development standards, regulations, plans, and policies to minimize the effect of the increase in population on physical impacts on the environment. Upon approval, the proposed project would increase the City's housing supply. Therefore, the proposed project combined with related projects would not result in cumulatively considerable impacts to population and housing.

5.9.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.9.7 Mitigation Measures

No mitigation measures are required.

5.9.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.9.9 References

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5.10 PUBLIC SERVICES

This section addresses the potential for the Brea Mall Mixed Use project (proposed project) to impact public services and facilities, including fire protection and emergency services, police protection, school services, and library services. Park facilities are addressed in Chapter 5.11, *Recreation*. Public and private utilities and service systems, including water, wastewater, and solid water services and systems, are addressed in Chapter 5.14, *Utilities and Service Systems*. The information in this section is based on responses to service provider letters that can be found in Appendix H of this DEIR.

5.10.1 Fire Protection and Emergency Services

5.10.1.1 ENVIRONMENTAL SETTING

Regulatory Background

International Fire Code

The International Fire Code (IFC) is a model code for regulating minimum fire-safety requirements for new and existing buildings, facilities, storage, and processes. The IFC includes general and specialized technical fire- and life-safety regulations, with topics addressing fire-department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, use and storage of hazardous materials, protection of emergency responders, industrial processes, and various other topics. The IFC is issued by the International Code Council, which is an international organization of building officials.

State

California Fire Code

The California Fire Code (CFC; California Code of Regulations, Title 24, Part 9) is based on the 2015 IFC and includes amendments from the State of California fully integrated into the code. The CFC contains fire safety-related building standards that are referenced in other parts of Title 24 of the California Code of Regulations. The CFC is updated once every three years; the 2016 CFC took effect on January 1, 2017.

California Health and Safety Code

Sections 13000 et seq. of the California Health and Safety Code include fire regulations for building standards (also in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Local

City of Brea Municipal Code

Section 16.01.010, Fire Code Adopted, of Brea's fire code (City of Brea Municipal Code Chapter 16.04) states that the 2016 edition of the California Fire Code in its entirety, together with the amendments, additions, deletions, and exceptions in Chapter 16.04, are the adopted fire code of the City.

City of Brea General Plan

The City of Brea General Plan contains policies that support the City's fire and police services.

- **Policy PS-1.2:** Provide up-to-date technology to the Brea Police and Fire Department.
- **Policy PS-1.4:** Work with the Fire Department to determine and meet community needs for fire protection and related emergency services. Ensure that sufficient stations, personnel, and equipment are provided to meet growth needs in the City.
- **Policy PS-1.5:** Maintain a maximum 4- to 6-minute emergency response time for fire safety services. Maintain a 3- to 5-minute response time from emergency police response services. Require that all new development be able to meet established standards for such response.
- **Policy PS-1.6:** Impose special conditions as needed on development projects to ensure that adequate fire protection measures are in place and maintained.

Development Impact Fees

Dispatch Impact Fees

The City of Brea established these fees as necessary for providing upgrades to the police and fire dispatch systems, thus ensuring that new development is provided with appropriate public safety services (Brea 2019a).

- Multifamily: $40/dwelling unit
- Single family: $55/dwelling unit
- Commercial: $55/1,000 square foot
- Office: $77/1,000 square foot
- Industrial: $40/1,000 square foot (Brea 2019a).

Fire Impact Fees

The purpose of the fire impact fee is to ensure that new development finance its fair share of fire protection facilities (Brea 2019a).

- Multifamily: $731/dwelling unit
- Single family: $1,029/dwelling unit
- Commercial: $191/1,000 square foot
- Office: $267/1,000 square foot
- Industrial $138/1,000 square foot

Fire Service Fees

Fire Service Connection charges are applicable to all new construction where fire service is to be installed (Brea 2019a). Fire service connection fees are buy-ins used to recover the cost of existing reservoir storage

and water system capacity for private fire systems; the connection fees for fire service connection is as follows:

- 4" connection: $3,562
- 6" connection: $ 4,987
- 8" connection: $6,484
- 10" connection: $9,337
- 12" connection: $9,337

Existing Conditions

Fire Stations, Equipment, Staffing, and Mutual Aid

The Brea Fire Department serves the City of Brea and is the primary fire department providing service to the project area. The Los Angeles County Fire Department and Fullerton Fire Department provide mutual aid. Table 5.10-1, *Fire Stations and Equipment Serving the Project Area*, provides a list of fire stations that respond to service requests in the project vicinity. In the event of an emergency, the Orange County Fire Authority also provides mutual aid in the City.

Table 5.10-1 Fire Stations and Equipment Serving the Project Area

Station	Address	Equipment
City of Brea Fire Department		
Brea Fire Department – Station #1	555 North Berry Street, Brea	Brea Engine 1, Type 1 – Advanced Life Support, 4 personnel
Brea Fire Department – Station #2	200 North Brea Boulevard, Brea	Brea Truck 2, Pierce/tiller – Advanced Life Support, 4 personnel
Fullerton Fire Department		
Fullerton Fire Department – Station #4	3251 North Harbor Boulevard, Fullerton	Fullerton Engine 4, Type 1 – Advanced Life Support, 4 personnel
Los Angeles County Fire Department		
LACFD – Station 191	850 West La Habra Boulevard, La Habra	Squad - 2 paramedics
LACFD – Station 192	520 South Harbor Boulevard, La Habra	Type 1 – Advanced Life Support, Paramedic Assessment Unit - 3 personnel
LACFD – Station 193	1000 West Risner Way, La Habra	Type 1 – Advanced Life Support, Paramedic Assessment Unit - 3 personnel

Source: Schaefer and Salgado 2019.

Response Times

As indicated in Policy PS-1.5 of the City of Brea General Plan, the Brea Fire Department should maintain a maximum 4- to 6-minute emergency response time for fire safety services. The standard for the first arriving unit on scene is approximately 5 minutes (Schaefer and Salgado 2019).

Wildfire Hazard Zones

The northern, northeastern, and eastern portions of the City are in fire hazard severity zones mapped by the California Department of Forestry and Fire Prevention (CALFIRE 2011). However, the project area itself is not in or near a wildfire hazard zone (see also Section 8. 6, *Wildfire*).

5.10.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment 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.

5.10.1.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP PS-1 New buildings are required to meet the fire regulations outlined in California Health and Safety Code (Sections 13000 et seq.).

PPP PS-2 The project applicant is required to pay development impact fees (dispatch impact fees, fire impact fees, fire service fees).

PPP PS-3 As part of the project review process, the City of Brea Fire Department will require approval of Building Plan Check for Site Plan and Emergency Access as well as approval of Fire Master Plan. Additional design features to address the City of Brea Fire Department's requirements will be incorporated as conditions of approval for the project.

PPP PS-4 The project will be designed, built, and operated in accordance with the City of Brea's Municipal Code Chapter 15.08 Building Code and Chapter 16.04 Brea Fire Code.

5.10.1.4 ENVIRONMENTAL IMPACTS

Impact 5.10-1: The proposed project would introduce new structures, 565 residents, and 213 employees into the City of Brea Fire Department service boundaries, thereby increasing the requirement for fire protection facilities and personnel. [Threshold FP-1]

The proposed project would develop 312 units and would increase the mall's commercial square footage by 149,625 square feet, thereby increase the demand for fire and emergency services. The Brea Fire Department is the primary fire department providing service to the Brea Mall. Brea Fire Department Station #1 is 1.30 miles northwest of the project area, and Brea Fire Department Station #2 is 0.60 mile northwest of the

project area. The current standard for the first arriving unit on scene is approximately 5 minutes (Schaefer and Salgado 2019). The are no existing deficiencies in the level of fire protection service currently provided to the area including and surrounding the project area.

The proposed project would likely to increase the number of service calls and demand for fire services. However, the project would comply with the California Fire and Building Codes, City ordinances, and applicable national standards. The following fire protection systems would be required for the proposed project: automatic fire sprinkler system, automatic fire alarm system, a fire pump, and an emergency responder radio coverage system. Additionally, fire apparatus access roads would also be provided to ensure adequate accessibility to the proposed structures. Figure 5.10-1, *Fire Access*, shows the fire access, water lines, and hose pulls required to serve the new buildings. Fire vehicles, equipment, and expansion of existing facilities is funded partially through Development Impact Fees (DIF) from new development. However, the majority of the funds for facilities, equipment, and service personnel come from the City's General Fund. Funding from property taxes would be expected to grow roughly proportional to the increase in residential units and non-residential square footage associated with the project. Additionally, the project applicant would pay the appropriate fire impact fees, fire service fees, and dispatch fees prior to the issuance of any building permits, which would be used to finance future fire protection facilities, fire service connection, and upgrades to the police and fire dispatch systems. More specific consideration of these services and any desired augmentation to achieve best performance goals may be considered as part of the project review process and any conditions of approval for the project.

Based on the preceding, the proposed project would not adversely affect the Brea Fire Department's ability to provide adequate service and would not require new or expanded fire facilities that could result in adverse environmental impacts. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Impact 5.10-1 would be less than significant.

5.10.1.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for fire protection and emergency services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the Brea Fire Department's operations and construction of new ad/or expanded fire stations. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

5.10.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.10-1.

5.10.1.7 MITIGATION MEASURES

No mitigation measures are required.

5.10.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.10.2 Police Protection

5.10.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Local

City of Brea General Plan

The City of Brea General Plan provides policies that support the City's fire and police services.

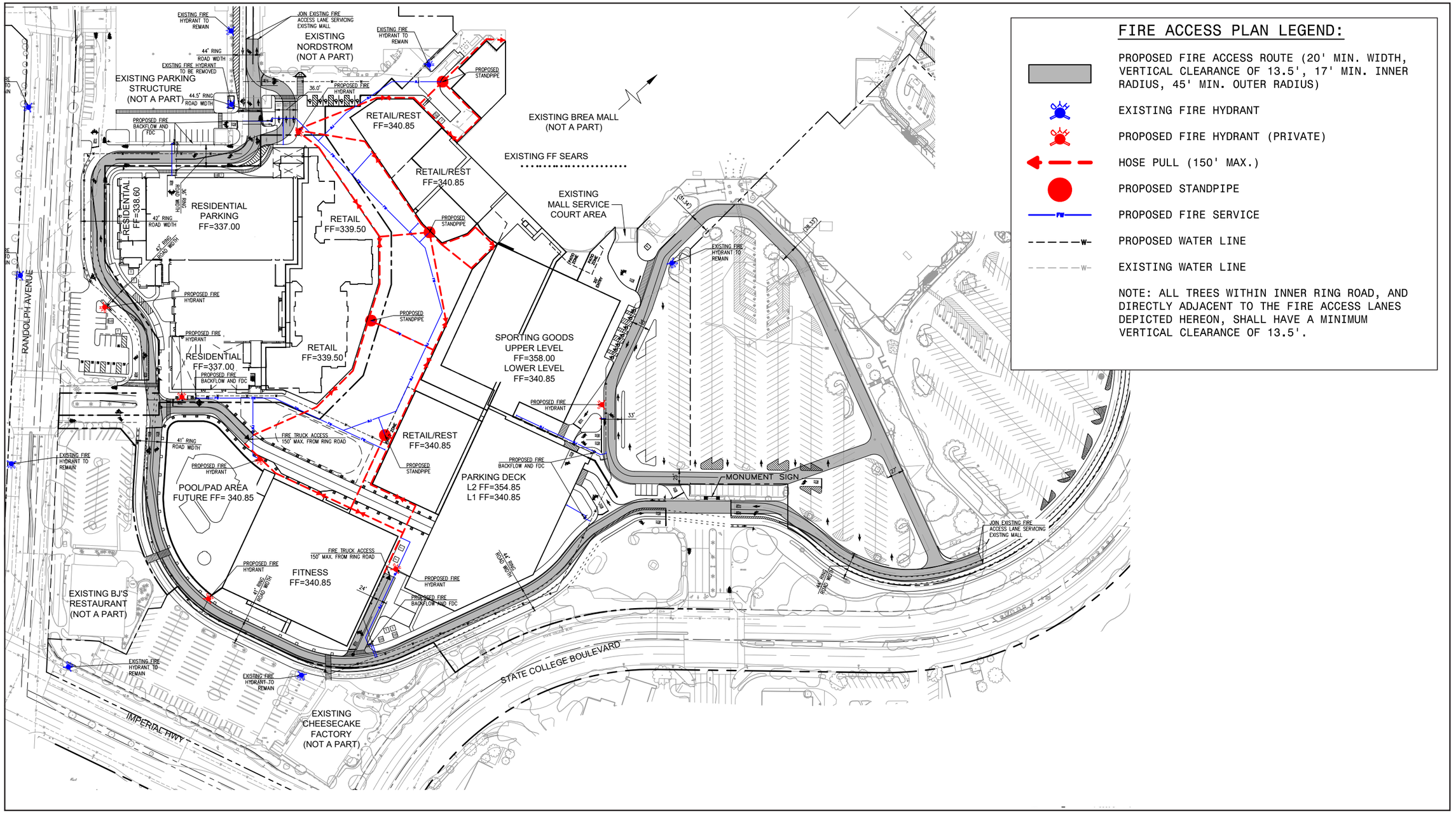
- **Policy PS-1.1:** Work with the Police Department to determine and meet community needs for law enforcement.
- **Policy PS-1.2**: Provide up-to-date technology to the Brea Police and Fire Department.
- **Policy PS-1.3:** Continue to maintain and develop a community-based police strategy compatible with the needs and size of the community.
- **Policy PS-1.5:** Maintain a maximum 4- to 6-minute emergency response time for fire safety services. Maintain a 3- to 5-minute response time from emergency police response services. Require that all new development be able to meet established standards for such response.
- **Policy PS-1.7:** Incorporate the tenets of Community Oriented Policing into the design of crime prevention and enforcement programs.
- **Policy PS-1.8:** Use technology to improve crime prevention efforts.

Dispatch Impact Fees

The City of Brea established these fees as necessary for providing upgrades to the police and fire dispatch systems, ensuring that new development is provided with appropriate public safety services (Brea 2019a).

- Multifamily: $40/dwelling unit
- Single family: $55/dwelling unit
- Commercial: $55/1,000 square foot
- Office: $77/1,000 square foot
- Industrial: $40/1,000 square foot

Figure 5.10-1 - Fire Access
5. Environmental Analysis



Source: raSmith, 2019

5. Environmental Analysis
PUBLIC SERVICES

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Existing Conditions

Law enforcement and police protection services are provided by the Brea Police Department at 1 Civic Circle in the City of Brea. The Brea Police Department is divided into the Uniform Division and Investigative Division, directed by two captains (Brea 2019b). The Brea Police Department also includes a K-9 Unit, Professional Standards Unit, SWAT Unit, Threat Management Unit, and Traffic Unit (Brea 2019b). There are over 40 uniformed officers whose duties include:

- Respond to emergency, in-progress crimes.
- Conduct on-scene investigations, including fingerprinting, photography, interviewing, and interrogation.
- Write crime reports documenting incidents.
- Arrest and book criminal offenders.
- Stop traffic violators and warn or cite the driver.
- Patrol their assigned area, checking residential and business areas for illegal activity. (Brea 2019c)

The existing staffing levels are 61 full-time sworn officers, 29 full-time nonsworn employees, and 19 part-time nonsworn employees. The Brea Police Department Communications Center, which includes a communications supervisor, four senior dispatchers, six full-time dispatchers, and nine part-time dispatchers that are called to assist when needed, operates 365 days a year, 24 hours a day (Brea 2019d). The Brea Police Department is currently conducting a staffing needs assessment to provide a clearer understanding of specific police department needs, which is expected to be completed by January 2020 (Dickinson 2019).

Response Times

As indicated in Policy PS-1.5 of the City of Brea General Plan, the Brea Police Department seeks to maintain a maximum 3- to 5-minute emergency response time for police services. Calls for service are prioritized into several categories with emergency calls being the most important; as of August 2019, the average emergency response time was 3 minutes and 31 seconds (Brea 2019d).

5.10.2.2 THRESHOLDS OF SIGNIFICANCE

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

PP-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 police protection services.

5.10.2.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP PS-5 The project applicant is required to pay dispatch impact fees.

PPP PS-6 As part of the project review process, the City of Brea Police Department may require project design features to improve security. Additional design features to address the City of Brea Police Department's service standards will be incorporated as conditions of approval for the project, such as:

- Increased integration with onsite private security and the police department
- The ability of police officers to access locked common areas for emergency response
- Verified police/fire radio reception in enclosed areas of the mall.
- Installation of cameras on traffic signals.

5.10.2.4 ENVIRONMENTAL IMPACTS

Impact 5.10-2: The proposed project would introduce new structures, 565 residents, and 213 employees into the City of Brea Police Department service boundaries, thereby increasing the requirement for police protection facilities and personnel. [Threshold PP-1]

Law enforcement and police protection services would be provided by the Brea Police Department at 1 Civic Circle in Brea, approximately 370 feet northwest of the project area. Calls for service are prioritized into several categories with emergency calls being the most important; as of August 2019, the average emergency response time was 3 minutes and 31 seconds (Brea 2019d).

The proposed project would increase calls for service, which would increase service needs from the police department. Based on the Brea Police Department's initial review, the City has requested an increased integration with onsite private security and the police department, the ability of police officers to access locked common areas for emergency response, and verified police/fire radio reception in enclosed areas of the mall are considerations that would be discussed during the project review process and incorporated as conditions of approvals, as identified in PPP PS-6 (Dickinson 2019).

Funds for additional police facilities, equipment, and officers would come from the Development Impact Fees collected from new development. However, the majority of the funds for police facilities, equipment, and officers come from the City's General Fund. Funding from property taxes would be expected to grow roughly proportional to the increase in residential units and non-residential square footage associated with the project. Moreover, the project applicant would be required to pay dispatch fees prior to the issuance of any building permits that would be used to provide future upgrades to police and fire dispatch systems. More specific consideration of these services and any desired augmentation to achieve best performance goals set

forth by the police department, such as project design features to improve security onsite, may be considered as part of the project review process and any conditions of approval for the project.

Based on the preceding, the proposed project would not adversely affect the Brea Police Department's ability to provide adequate service and would not require new or expanded police facilities that could result in adverse environmental impacts.

Level of Significance Before Mitigation: Impact 5.10-2 would be less than significant.

5.10.2.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for police protection and services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the Brea Police Department's operations and construction of new and/or expanded police stations. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

5.10.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.10-2.

5.10.2.7 MITIGATION MEASURES

No mitigation measures are required.

5.10.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.10.3 School Services

5.10.3.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California State Assembly Bill 2926: School Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 was enacted in 1986 and authorizes a levy of impact fees on new residential and commercial/industrial development. The bill was expanded and revised in 1987 through the passage of AB 1600, which added Sections 66000 et seq. to the Government Code. Under this statute, payment of impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities.

California Senate Bill 50

Senate Bill (SB) 50, passed in 1998, provides a comprehensive school facilities financing and reform program and enables a statewide bond issue to be placed on the ballot. Under the provisions of SB 50, school districts are authorized to collect fees to offset the costs associated with increasing school capacity as a result of development and related population increases. The funding goes to acquiring school sites, constructing new school facilities, and modernizing existing school facilities. SB 50 establishes a process for determining the amount of fees developers would be charged to mitigate the impact of development on school districts from increased enrollment. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

Under this legislation, there are three levels of developer fees that may be imposed upon new development by the governing school district. Level I fees are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level II fees require the developer to provide one-half of the costs of accommodating students in new schools, and the state provides the remaining half. To qualify for Level II fees, the governing board of the school district must adopt a School Facilities Needs Analysis and meet other prerequisites in accordance with Section 65995.6 of the California Government Code. Level III fees apply if the state runs out of bond funds, allowing the governing school district to impose 100 percent of the cost of school facility or mitigation minus any local dedicated school monies on the developer.

Local

Development Impact Fees

The Brea Olinda Unified School District (BOUSD) has adopted a fee program, pursuant to SB 50, which is modified every 24 months, that levies statutory school impact fees per residential building square footage:

- Residential:
  - Single-Family Detached – $5.14/square foot
  - Multifamily Detached – $5.48/square foot
- Commercial: $0.61/square foot (Patterson 2019).

Existing Conditions

Enrollment and Capacity

The BOUSD consists of six elementary schools, one junior high school, one high school, and one continuation high school, and serves approximately 6,000 students (BOUSD 2019). Table 5.10-2, *School Enrollment and Capacity*, provides the enrollment and capacity per school that would serve the proposed project.

Table 5.10-2 School Enrollment and Capacity

School & Location	Average Enrollment	Total Capacity
Laurel Elementary School	435 (magnet program)	455
Brea Junior High School	913	1,248
Brea Olinda High School	1,885	2,720

Source: Patterson 2019.

5.10.3.2 THRESHOLDS OF SIGNIFICANCE

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

SS-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 school services.

5.10.3.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP PS-6 Pursuant to AB 2926, new development is required to pay development impact fees to assist in providing school facilities to serve students generated by new development.

PPP PS-7 Pursuant to SB 50, new development is required to offset the costs associated with increasing school capacity, where the funds collected go to acquiring school sites, constructing new school facilities, and modernizing existing school facilities.

5.10.3.4 ENVIRONMENTAL IMPACTS

Impact 5.10-3: The proposed project would generate 214 students who would impact the school enrollment capacities of the Brea Olinda Unified School District. [Threshold SS-1]

The proposed project would be the construction of 312 residential units and a net increase of 149,625 square feet for the mall component of the project. The proposed project would result in an increase of approximately 565 residents in the City of Brea.

Brea Junior High School and Brea Olinda High School would be able to accommodate the potential increase in enrollment as a result of the proposed project (Patterson 2019). Laurel Elementary School would not be able to accommodate the potential increase in enrollment; however, the Magnet Bilingual Program at Laurel would continue, and the proposed project would not affect student busing services or meal services at Laurel Elementary (Patterson 2019).

The student generation rate for BOUSD is 0.6846 students per dwelling unit for students in grades kindergarten through 12. Therefore, the proposed project would generate approximately 214 students.[1] Students generated by the proposed project would leave a remaining capacity of 254 and 855 students at Brea Junior High School and Brea Olinda High School, respectively; Laurel Elementary School would be over capacity by 66 students (see Table 5.10-3, *Estimated Project Student Generation*). Therefore, the three affected schools would have a total available capacity of 1,043 seats after project implementation. The proposed project would result in the need to accommodate 66 students at Laurel Elementary School.

Existing school facilities may not be adequate to serve additional students generated by the proposed project. However, the increased demands for additional school facilities would be accommodated through the payment of development fees. BOUSD has adopted a fee program; the current school fees are $5.14 per square foot for single-family detached homes, $5.48 per square foot for multifamily attached homes, and $0.61 per square foot for commercial development. Pursuant to California Government Code Section 65995(h), payment of the impact fees fully mitigates impacts to school facilities. Although the increased demand for school facilities at Laurel Elementary Schools would result in a potential impact, payment of impact fees in compliance with SB 50 would reduce the impacts to an acceptable level.

Table 5.10-3 Estimated Project Student Generation

School	Enrollment 2018-19[1]	Capacity[2]	Available Capacity	Estimated Project Student Generation	Available Capacity with Project Student Generation Incorporated
Laurel Elementary School	450	455	5	71	-66
Brea Junior High School	923	1,248	325	71	254
Brea Olinda High School	1,794	2,720	926	71	855
Total	**3,167**	**4,423**	**1,256**	**213**	**1,043**

Sources:
[1] CDE 2019
[2] Patterson 2019

Level of Significance Before Mitigation: Impact 5.10-3 would be less than significant with the implementation of PPP PS-6 and PS-7.

5.10.3.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for school services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General fund, part of which would be available for BOUSD's operations and construction of new and/or expanded school facilities. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

[1] 312 units x 0.6846 students = 213.59 students = 214 students / 3 schools = 71 students per school.

5.10.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.10-3.

5.10.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.10.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.10.4 Parks

A discussion of park facilities is detailed in Section 5.11, *Recreation*, of this DEIR.

5.10.4.1 ENVIRONMENTAL SETTING

Regulatory Background

City of Brea Municipal Code

According to Section 2.24.020, Purposes, of Chapter 2.24, Parks, Recreation, and Human Services Commission, of the Brea Municipal Code, the commission shall:

- Coordinate all of the recreation, leisure time, and cultural activities of the City.
- Provide for the establishment and maintenance of sound recreation and parks programs.
- Ensure the efficient operation of all recreation and parks facilities within the City.
- Encourage a sound and well-rounded program of activities to service the recreational, park, cultural, leisure time and other needs of people within the City.

City of Brea General Plan

The goals and policies of the City of Brea General Plan includes providing a variety of parks and recreation facilities that meet the diverse needs of the community, protecting and preserving existing parks and recreation facilities, and maximizing use of open space areas capable of supporting park-type activities.

Park Development Fees

Park Development Fees are charged for new development to fund park development and improvements; charges are determined based on the number and type of residential units being constructed (Brea 2019a).

Existing Conditions

The City provides its residents access to 16 park and recreation facilities, including mini or pocket parks, neighborhood parks, school parks, community parks, regional parks, Chino Hills State Park, and Birch Golf Course (Brea 2003a). Chino Hills State Park encompasses 3,400 acres (Brea 2003a).

5.10.4.2 THRESHOLDS OF SIGNIFICANCE

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

PS-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 park services.

5.10.4.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP PS-8 The proposed project is required to comply with Brea Municipal Code Section 18.64.080 that establishes the subdivision regulations for the provision of park and recreational facilities through land dedication, installation of improvements, payment of in-lieu fee thereof, or a combination. Where applicable, new development is required to fund park development and improvements through the payment of park development fees.

5.10.4.4 ENVIRONMENTAL IMPACTS

Impact 5.10-4: The proposed project would introduce 565 residents to the project site; however, the City has adequate parkland, and the project would not have significant impacts to parks. [Threshold PS-1]

According to the City of Brea General Plan, the City has a goal of 5 acres per 1,000 population for public park and recreational facilities (Brea 2003a). According to Table CD-1 in the City of Brea General Plan, 14 percent (980 acres) of the City's 7,000 acres is designated as parks and open space (Brea 2003a). The proposed project would create a demand for 2.83 acres of parkland. The proposed project would also provide approximately 88,827 square feet of landscaping, private open space, and common open space areas, including a plaza (see Chapter 5.11, *Recreation*). Though the City has adequate parkland under the current standard, and would continue to have an excess of 749.15 acres of park space with project implementation (see Chapter 5.11, *Recreation*), parks and/or amenities may need to be distributed to serve the local area depending on community needs and demographics. Upon project implementation, and the open space areas to be developed as part of the proposed project, impacts to parks and open spaces would be less than significant.

Level of Significance Before Mitigation: Impact 5.10-4 would be less than significant.

5.10.4.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for parks. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the operations and development of new parks. Other projects that are found by the City to require increases in parklands would also be required to pay fair-share payments to the City for increased resources. As substantiated above, the City current has an excess of 749.15 acres of parks and open space. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects. Impacts of the proposed project would not be cumulatively considerable.

5.10.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.10-4.

5.10.4.7 MITIGATION MEASURES

No mitigation measures are required.

5.10.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.10.5 Library Services

5.10.5.1 ENVIRONMENTAL SETTING

Regulatory Background

Local

City of Brea General Plan

The General Plan contains the following goal and policies for providing library resources to the City:

Goal CS-4: Provide library resources that meet the educational, cultural, civic, business, and life-long learning needs of all residents. Retain a local library system that is community-oriented, provides knowledgeable, service-oriented staff, and offers access to information, books, and other materials in a variety of formats that use contemporary technology:

- **Policy CS-4.1.** Encourage the County to develop programs and services for adults, children, and new readers that meet future needs.
- **Policy CS-4.2.** Work with library staff to assess, select, organize, and maintain collections of materials and information sources of value to and desired by the community.

- **Policy CS-4.3.** Work with library staff to maintain technological services that meet the needs of residents, as well as reader advisory, reference and referral services, responsive to user needs.
- **Policy CS-4.4.** Explore funding opportunities for the City to expand the existing County branch library and/or operate a local, independent library.

Existing Conditions

The Brea Branch Library is part of the Orange County Public Library community library network, which includes 28 branches throughout Orange County. The Brea Branch Library is at 1 Civic Center Circle in Brea. According to the General Plan EIR, all new development is required to pay Orange County Library impact fees prior to the issuance of building permits to offset the costs of providing additional library resources for residents and employees of local businesses (Brea 2003b).

5.10.5.2 THRESHOLDS OF SIGNIFICANCE

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

LS-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 library services.

5.10.5.3 PLANS, PROGRAMS, AND POLICIES

There are no existing plans, programs, and policies applicable to the proposed project.

5.10.5.4 ENVIRONMENTAL IMPACTS

Impact 5.10-5: The proposed project would introduce 565 residents to the project site, which would increase the service needs for the Brea Branch Library. [Threshold LS-1]

The only library in the City of Brea, Brea Branch Library, is approximately 370 feet northwest of the project area. According to the City of Brea General Plan EIR, 0.2 square foot of library space is needed per capita; therefore, the proposed project would require an additional 113 square feet[2] of library space (Brea 2003b). The required square footage would not warrant the construction of a new library or the expansion of the Brea Branch Library. Additionally, OCPL's service standard is 1.5 book volumes per capita for residential communities; therefore, the increase in population would require an additional 848 book volumes.[3] It should be noted that the OCPL also provides a wide range of electronic and digitized resources that do not require physical library space. Funding would be required to provide the additional books to meet the service standard. Generally, impact fees are assessed on new development to help pay for public infrastructure

[2] 0.2 square feet x 565 residents = 113 square feet of library space.
[3] 1.5 book volumes x 565 residents = 847.5 = 848 book volumes.

required to accommodate the new development. Funding for library services comes primarily from the property tax revenue, as well as library fines and fees collected from patrons, and state, federal, or government aid. As development occurs, property tax revenue should grow proportionally with the property tax collections. Additionally, access to online resources, including eBooks and audiobooks, are available on the OCPL system. Therefore, the proposed project would not have a substantial impact associated with the provision of new or physically altered governmental facilities; impacts would be less than significant.

Level of Significance Before Mitigation: Impact 5.10-5 would be less than significant.

5.10.5.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for library services. Other projects would also pay property, sales, and utility taxes and fees supporting OCPL, part of which would be available for the operations and development of new and/or expanded facilities. Other projects that are found by the City to require increases to library services would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects. Impacts of the proposed project would not be cumulatively considerable.

5.10.5.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.10-5.

5.10.5.7 MITIGATION MEASURES

No mitigation measures are required.

5.10.5.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.10.6 References

Brea, City of. 2003a. City of Brea General Plan. http://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan.

_____. 2003b. The City of Brea General Plan Final Environmental Impact Report. http://www.ci.brea.ca.us/DocumentCenter/View/3909/BreaGP_FinalEIR?bidId=.

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Brea Olinda Unified School District (BOUSD). 2019. District Profile. https://www.bousd.us/apps/pages/index.jsp?uREC_ID=1177878&type=d&pREC_ID=1425549.

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California Department of Forestry and Fire Protection (CALFIRE). 2011, July. Very High Fire Hazard Severity Zones in LRA. https://osfm.fire.ca.gov/media/5881/c30_brea_vhfhsz_2.pdf.

Dickinson, D. (Lieutenant). 2019, August 6. Response to "Proposed Brea Mall Mixed Use Project Questionnaire." Brea Police Department.

Patterson, C. (Interim CBO). 2019, July 15. Response to "Proposed Brea Mall Mixed Use Project Questionnaire." Brea Olinda Unified School District.

Schaefer, K. (Division Chief – Fire Marshal) and Salgado, P. (Fire Protection Analyst). 2019, September 13. Response to "Proposed Brea Mall Mixed Use Project Questionnaire." Brea Fire Department.

5.11 RECREATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Mall Mixed Use Project (proposed project) to impact public parks and recreational facilities in the City of Brea. Cumulative impacts related to recreation would be within the city boundaries.

5.11.1 Environmental Setting

5.11.1.1 REGULATORY BACKGROUND

State

California Government Code

The Government Code (Sections 65560–65568) requires a general plan to include an open space element to address: the preservation of natural resources, managed production of resources, outdoor recreation, public health and safety, support of military installations, and protection of places of cultural or historical interest. Building permits, subdivision approvals, and zoning approvals must be consistent with the open space plan. The Public Resources Code (Section 5076) also requires general plans to consider demands for trail-oriented recreational use, demands in developing open-space programs, the feasibility of integrating its trail routes with appropriate segments of the state system. Cities may also create a separate parks and recreation element as part of or in addition to an open space and conservation element.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any nonpark use unless compensation, land, or both are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Quimby Act

The Quimby Act (California Government Code Section 66477) authorizes cities and counties to require developers to dedicate land as parkland, pay in-lieu fees, or both as a condition of approval for a tentative or final tract map or parcel map for a residential subdivision. Revenue generated through the Quimby Act cannot be used for the operations or maintenance of existing park facilities. The Quimby Act also sets a statewide standard of three acres of parkland for every 1,000 residents unless the existing neighborhood and community park area exceeds that limit, in which case the city or county may establish a higher standard.

Mitigation Fee Act

The California Mitigation Fee Act (Government Code Sections 66000 et seq.) allows cities to impose fees on development projects to mitigate the project's impact on the city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act, a city must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a

development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the general fund in order to avoid commingling of capital facilities fees and general funds; 3) Make findings each fiscal year describing the continuing need for fees that have been in the possession of the city for five years or more and that have not been spent or committed to a project; and 4) Refund any fees with interest for developer deposits for which the findings noted above cannot be made.

Local

City of Brea Municipal Code

According to Chapter 2.24, Parks, Recreation, and Human Services Commission, Section 2.24.020, the commission shall:

- Coordinate all of the recreation, leisure time, and cultural activities of the City.
- Provide for the establishment and maintenance of sound recreation and parks programs.
- Ensure the efficient operation of all recreation and parks facilities within the City.
- Encourage a sound and well-rounded program of activities to service the recreational, park, cultural, leisure time, and other needs of people within the City.

City of Brea General Plan

The goals and policies of the City of Brea General Plan include providing a variety of parks and recreation facilities that meet the diverse needs of the community, protecting and preserving existing parks and recreation facilities, and maximizing use of open space areas capable of supporting park-type activities.

Park Development Fees

Park development fees are charged for new development to fund park development and improvements; charges are determined based on the number and type of residential units being constructed (Brea 2019).

5.11.1.2 EXISTING CONDITIONS

Facilities

The City has 16 park and recreation facilities, including mini or pocket parks, neighborhood parks, school parks, community parks, regional parks, Chino Hills State Park, and Birch Golf Course (Brea 2003). Chino Hills State Park encompasses 3,400 acres (Brea 2003). The City also provides recreational programs for:

- Tots and preschoolers
- Teens
- Adult sports and fitness
- Adult special interest
- Special events

- Volunteers
- Parks, Recreation, and Human Services Commission (Brea 2003)

Facility Funding

Developer agreements and impact fees fund the acquisition of parklands and improvements to parks and recreational facilities. These fees are sufficient to develop new park and recreational facilities. In the City of Brea, park development fees are charged for new development to fund park development and improvements.

5.11.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment 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.

5.11.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP REC-1 New development is required to fund park and recreational development and improvements through the payment of park development fees.

PPP REC-2 The proposed project includes installation of Class II bike lanes and/or sharrow bike lanes on the "ring road" and the signalized entries of the Brea Mall. The requirement to improve bicycle and pedestrian connections will be incorporated as conditions of approval for the project.

5.11.4 Environmental Impacts

Impact 5.11-1: The proposed project would generate 565 residents who could increase the use of existing park and recreational facilities. [Threshold R-1]

The 312 units proposed for the project would generate 565 residents. This increase in residents would increase use of existing park and recreational facilities. Of the 7,000 acres in the City, 14 percent (980 acres) is designated as parks and open space. The increase in development would create a demand for 2.83 acres of parkland. However, as substantiated in Impact 5.10-4, the City of Brea would continue to have an excess of 749.15 acres[1] of park space with project implementation. Though the City has adequate parkland based on

[1] 5 acres/1,000 persons = 0.005 acre/person
0.005 acre/person x 45,606 (population DOF 2019) = 228.03 acres (needed)

the General Plan goals and current standard, the distribution of parks and/or amenities may be needed to serve the local area. Park, recreation, and human service needs should consider amenities, community needs, and demographics.

The closest park to the project area is Craig Regional Park, approximately 621 feet south of the project area and separated from the project area by Imperial Highway. The proposed project would provide 14,605 square feet of private indoor recreational space, which would include an onsite fitness center for residents and a club house, and 33,521 square feet of private outdoor space for residents, which would include an outdoor lounge, roof and amenity decks, and terraces. The proposed project would also include an approximately 128,000-square-foot fitness center on-site, which would be an additional private recreational facility. In addition to the private recreational amenities, the proposed project would include a 1.5-acre central green, which would be an open common area and include play areas and seating, and a 0.3-acre plaza that could be used for gatherings and concerts. Moreover, the project would construct an internal bike lane along the mall ring road with off-site bike and pedestrian connections to the plaza. These recreational and open space components would reduce offsite recreational needs and associated potential impacts to Craig Regional Park.

In addition, if deemed necessary by the City, the proposed project may be conditioned to pay park development fees. Therefore, with the excess of parklands in the City, the private and public recreational facilities proposed by the project, and the payment of park fees (if necessary), project implementation would result in a less than significant impact.

Level of Significance Before Mitigation: Impact 5.11-1 would be less than significant.

Impact 5.11-2: Project implementation would not result in environmental impacts due to the provision of new and/or expanded recreational facilities. [Threshold R-2]

As stated in Impact 5.11-1, the proposed project would result in the development of 48,126 square feet of indoor and outdoor private recreational facilities, a 128,000-square-foot fitness center, and a 1.8-acre central green and plaza area open to the public. Although the proposed project would provide new recreational facilities, the construction of these facilities would be less than significant, as substantiated in Section 5.2, *Air Quality*, and Section 5.8, *Noise,* which describe the air quality and noise construction impacts as a result of the proposed project. The project would not require new and/or expanded facilities other than those already included as part of the proposed project; in addition, the proposed project may be conditioned to pay park development fees if deemed necessary by the City. Therefore, a less than significant impact would occur.

Level of Significance Before Mitigation: Impact 5.11-2 would be less than significant.

980 acres of park space (14% of 7,000 acres) – 228.03 acres = 751.97 (excess)
312 units x 1.81 (average person/household) = 564.72 = 565 persons
565 persons x 0.005 acres/person = 2.825 acres (project need)
751.97 acres (excess) – 2.825 acres/person (project need) = 749.145 acres

5.11.5 Cumulative Impacts

Growth within the City would increase demands for parks and recreational facilities. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the operations and development of new parks and recreational facilities. Other projects that are found by the City to require increases in parklands would also be required to pay park development fees and/or provide recreation onsite. The City currently has an excess of 749.15 acres of parks and open space, as well as recreational programs for its residents. Cumulative impacts would be less than significant after payment of taxes, impact fees, and development impact fees other projects. Impacts of the proposed project would not be cumulatively considerable.

5.11.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.11-1 and 5.11-2.

5.11.7 Mitigation Measures

No mitigation measures are required.

5.11.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.11.9 References

Brea, City of. 2003a. City of Brea General Plan. http://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan.

———. 2019. Fees. http://www.ci.brea.ca.us/138/Fees.

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RECREATION

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5.12 TRANSPORTATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Mall Mixed Use Project (proposed project) to result in transportation and traffic impacts in the City of Brea and the local vicinity, which includes intersections affected by the project in the cities of La Habra, Fullerton, and Placentia (see Figure 5.12-1, *Traffic Study Area*). The analysis is consistent with the current Congestion Management Program for Orange County. The analysis in this section is based in part on the following technical report(s):

- *Traffic Analysis Report Brea Mall Mixed Use Project*, Linscott, Law, and Greenspan (LLG) Engineers, January 9, 2020.

A complete copy of this study is included as Appendix I to this Draft EIR. The traffic study was developed in conjunction with City of Brea Public Works Department staff. Study intersections under the jurisdiction of the City of Brea and intersections under Caltrans jurisdiction were analyzed using both the Highway Capacity Manual 6 (HCM 6) methodology and the Intersection Capacity Utilization (ICU) methodology. The ICU methodology tells how much the intersection is overcapacity (volume to capacity ratio) but does not predict delay, whereas the HCM methodology measures intersection delay. Therefore, the HCM methodology is used to evaluate potential transportation impacts associated with delay at intersections in the City of Brea while the ICU methodology is used to determine consistency with the transportation goals in the City's 2003 General Plan and Orange County Congestion Management Plan (CMP) requirements. Long-term (Year 2040) daily and peak-hour traffic forecasts were projected based on modeled traffic projections prepared using the Orange County Traffic Analysis Model (OCTAM) 4.0 Year 2040 Model.

Terminology

The following terms are used throughout this section.

- **Congestion Management Plan (CMP).** A federally mandated program in metropolitan planning areas to address and manage congestion through the implementation of strategies not calling for major capital investments.

- **Highway Capacity Manual (HCM).** The HCM provides methods for quantifying highway capacity, serving as a fundamental reference on concepts, performance measures, and analysis techniques for evaluating the multimodal operation of streets, highways, freeways, and off-street pathways. The methodology used to assess the operation of intersections is based on the HCM.

- **Intersection Capacity Utilization (ICU).** The ICU methodology is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic, and assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

- **Levels of Service (LOS).** Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F to represent traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation).

- **Orange County Transportation Authority (OCTA).** OCTA is the local transportation authority in Orange County that is responsible for transportation planning, programing, and operations and serves as the primary transit operator in the county.

- **Vehicles Miles Traveled (VMT).** The number of vehicle miles of travel is an indicator of the travel levels on the roadway system by motor vehicles. This estimate is based upon traffic volume counts and roadway length.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY FRAMEWORK

State Regulations

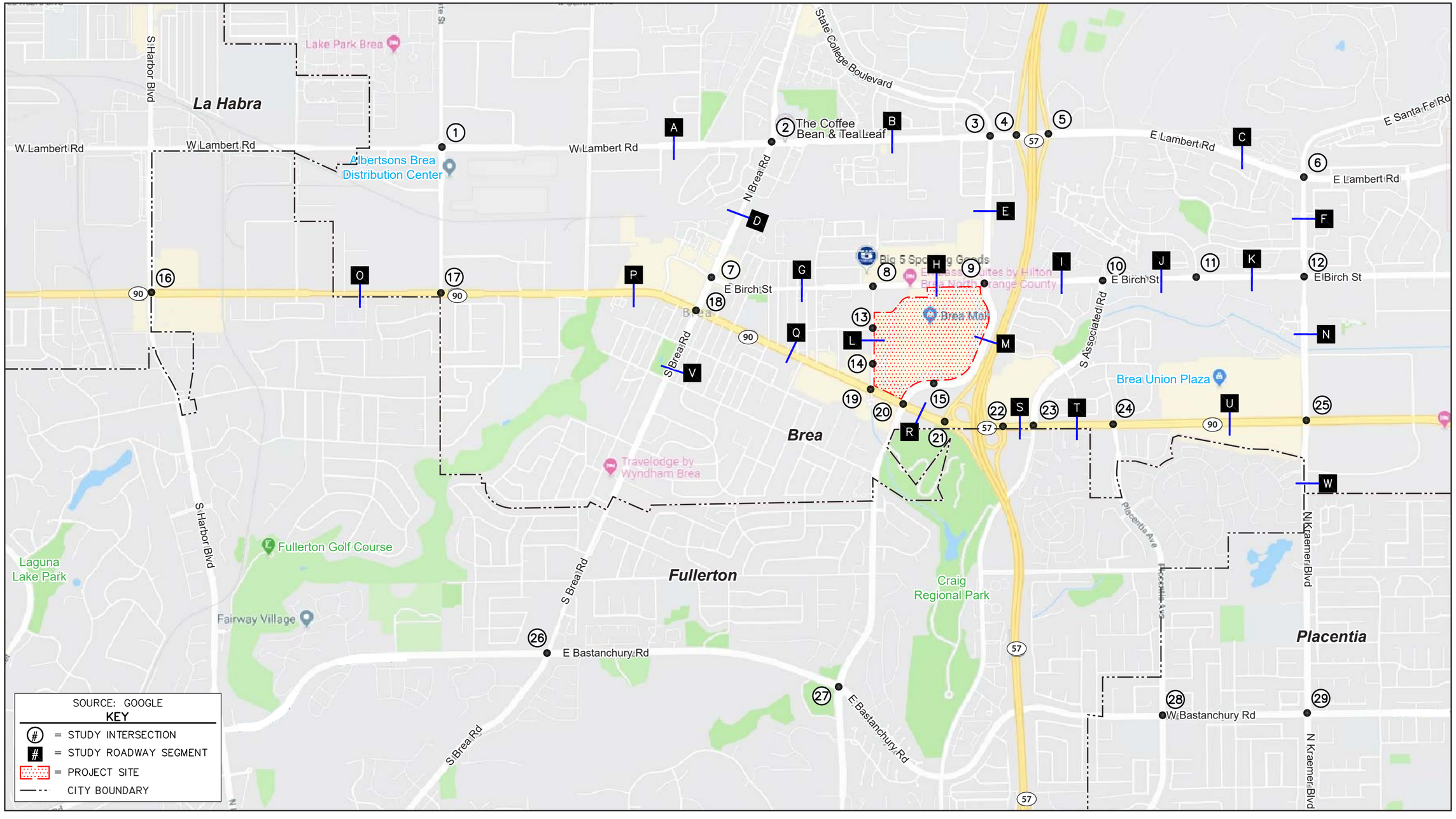
Senate Bill 743

On September 27, 2013, SB 743 was signed into law, starting a process that fundamentally changed transportation impact analysis as part of CEQA compliance. The legislature found that with the adoption of SB 375, the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

SB 743 eliminates auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts under CEQA. Pursuant to the CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099(b)(1)).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. The revised CEQA Guidelines establish new criteria for determining the significance of transportation impacts. Under the new Guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects are required beginning on July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of LOS, but these metrics may no longer constitute the sole basis for determining transportation impacts under CEQA.

Figure 5.12-1 - Traffic Study Area
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Source: Linscott, Law, & Greenspan Engineers, 2019

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TRANSPORTATION

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Regional Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

2016 Regional Transportation Plan / Sustainable Communities Strategy

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increase capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the links between public health, environmental protection and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that would achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

Orange County Transportation Authority Congestion Management Plan

The Orange County Transportation Authority (OCTA) is the subregional planning agency for Orange County. In June 1990, the Proposition 111 gas tax increase required California's urbanized areas (areas with populations of 50,000 or more), to adopt a Congestion Management Program (CMP). The CMP is intended to link transportation, land use, and air quality decisions and to address the impact of local growth on the regional transportation system. Compliance with CMP requirements ensures a city's eligibility to compete for state gas tax funds for local transportation projects. The Orange County CMP was established in 1991, and the most recent CMP was adopted in 2017. The CMP requires that a traffic impact analysis (TIA) be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. Per the CMP guidelines, this number is based on the desire to analyze any impacts that comprise 3 percent or more of the existing CMP highway system facilities' capacity. The CMP highway system includes specific roadways—including state highways and super streets (now known as smart streets)—and CMP arterial monitoring locations/intersections. Therefore, the CMP TIA requirements relate only to the designated CMP highway system. There are two roadways in the project study

area that are on OCTA's CMP Highway System: #1, State College Boulevard at Imperial highway; and #13, SR-57 NB Ramps at Imperial.

California Department of Transportation

Intersections

Intersections within the City of Brea associated with freeway on-ramps and off-ramps fall under Caltrans jurisdiction. Caltrans is the primary state agency responsible for transportation issues. Caltrans approves the planning, design, and construction of improvements for all state-controlled facilities, including Imperial Highway and State Route 57 (SR-57). Caltrans has established standards for roadway traffic flow and developed procedures to determine if state-controlled facilities require improvements.

Caltrans utilizes the Highway Capacity Manual 6 (HCM 6) methodology to evaluate intersections within its jurisdiction. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance. Table 5.12-1, *HCM Intersection Level of Service*, provides a description of the LOS associated with the delay in seconds per vehicle (sec/veh).

Table 5.12-1 HCM Intersection Level of Service

LOS	LOS Description – Detailed LOS Description for Signalized Intersections	Signalized Intersections Control Delay (sec/veh)	Unsignalized Intersections Control Delay (sec/veh)
A	**Little or no delay –** This level of service occurs when the v/c ratio is low and either progression is exceptionally favorable or the cycle length is very short.	0-10	0-10
B	**Short traffic delay –** This level generally occurs when the v/c ratio is low and either progression is highly favorable or the cycle length is short.	>10-20	>10-15
C	**Average traffic delays –** These higher delays may result when progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	>25-35	>15-20
D	**Long traffic delays –** At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and individual cycle failures are noticeable.	>35-55	>25-35
E	**Very long traffic delays –** This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.	>55-80	>35-50
F	**Severe congestion –** This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels	>80	>50

Source: LLG 2020.
Notes: HCM: highway capacity manual; v/c: volume-to-capacity ratio; sec: seconds; veh: vehicle

For state-controlled intersections, LOS standards and impact criteria specified by Caltrans will apply. Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The Caltrans Traffic Impact Study Guidelines does state that if an existing state-owned facility operates at less than LOS D, the existing service level should be maintained.

Freeway Segments

The basic freeway segment criteria are based on peak hour HCM 6 density analysis. The capacities are based on information contained in the HCM 6. Existing traffic count data for the analyzed freeway segments was obtained from the Caltrans website. Basic freeway segment LOS are determined from segment density. Table 5.12-2, *HCM Basic Freeway Segment Level of Service*, presents the correlation between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway basic freeway segments.

Table 5.12-2 HCM Basic Freeway Segment Level of Service

LOS	Basic Freeway Segment Density (pc/mi/ln)
A	≤ 11.0
B	> 11.0 – 18.0
C	> 18.0 – 26.0
D	> 26.0 – 35.0
E	> 35.0 – 45.0
F	> 45.0

Source: LLG 2020.
Notes: HCM: highway capacity manual; pc: passenger cars; mi: mile; ln: lane

Freeway merge and diverge segment analysis is based on peak hour HCM 6 density analysis for freeway-to-arterial interchanges. According to HCM 6 methodology, the ramp merge and diverge segments focus on an influential area of 1,500 feet, including the acceleration or deceleration lane(s) and adjacent freeway ramps. The methodology incorporates three fundamental steps:

- Determination of the traffic entering the freeway lanes upstream of the merge or at the beginning of the deceleration lane at diverge;
- Determination of the capacity for the segment; and
- Determination of the density of traffic flow within the ramp influence area and its level of service.

The LOS for freeway merge and diverge segments is determined by traffic density based on criteria outlined in the HCM 6. Table 5.12-3, *HCM Freeway Merge and Diverge Segments Level of Service*, presents the correlation

between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway merge and diverge segments.

Table 5.12-3 HCM Freeway Merge and Diverge Segments Level of Service

LOS	LOS Description for Merge/Diverge Segments	Freeway Ramp Density (pc/mi/ln)
A	Unrestricted operations	≤ 10.0
B	Merging and diverging maneuvers noticeable to drivers	> 10.0 – 20.0
C	Influence area speeds begin to decline	> 20.0 – 28.0
D	Influence area turbulence becomes intrusive	> 28.0 – 35.0
E	Turbulence felt by virtually all drivers	> 35.0
F	Ramp and freeway queues form	Demand Exceeds Capacity

Source: LLG 2020.
Notes: HCM: highway capacity manual; pc: passenger cars; mi: mile; ln: lane

Local Regulations

City of Brea General Plan

The Circulation Element of the City of Brea General Plan provides goals and policies for efficient regional transportation facilities, the local circulation system, the public transportation system, and pedestrian and bicycle facilities (Brea 2003). Applicable policies from the General Plan include:

- **Policy CD-10.1.** Work continually with Caltrans to improve access to and from State Route 57.
- **Policy CD-10.4.** Work with Caltrans, the Orange County Transportation Authority, and surrounding jurisdictions to provide adequate capacity on regional routes for through traffic and to minimize cut-through traffic on the local street system.
- **Policy CD-11.2.** Establish Level of Service goals for designated City streets, and ensure that new development maintains these service levels.
- **Policy CD-13.4.** Require new developments to provide for the use of alternative modes of transit via internal trails or travel ways—public or private—for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turn-outs.

Per the City, intersections under the sole jurisdiction of the City of Brea are to be analyzed using the Highway Capacity Manual 6 (HCM 6) methodology and ICU methodology, as described below.

HCM Methodology – Intersection Delay

Based on the HCM operations method of analysis, LOS for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles

slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle (sec/veh). According to City of Brea criteria, LOS D (see Table 5.12-1) is the minimum acceptable condition that should be maintained during the morning (AM) and evening (PM) peak commute hours at intersections.

ICU Methodology – General Plan Consistency

The ICU methodology estimates the V/C relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic, and assumes uniform traffic distribution per intersection approach lane and optimal signal timing. Per City of Brea requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each LOS calculation. The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown in Table 5.12-4, *ICU Intersection Level of Service*. For the ICU analysis, an impact is considered significant if the project causes an intersection at LOS D or better to degrade to LOS E or F, or if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F.

Table 5.12-4 ICU Intersection Level of Service

LOS	LOS Description – Detailed LOS Description for Signalized Intersections	ICU Value (V/C)
A	**Excellent –** No vehicle waits longer than one red light, and no approach phase is fully used.	≤ 0.600
B	**Very Good –** An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles..	≤ 0.6.01 – 0.700
C	**Good –** Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	≤ 0.7.01 – 0.800
D	**Fair –** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	≤ 0.801 – 0.900
E	**Poor –** Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	≤ 0.901 – 1.000
F	**Failure –** Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.	> 1.000

Source: LLG 2020.
Notes: ICU: Intersection Capacity Utilization; v/c: volume-to-capacity ratio;

Municipal Code

The Municipal Code includes regulations and standards that govern traffic, parking and loading, encroachments on the public right-of-way, and development in the City of Brea. Title 10, Vehicles and

Traffic, includes general traffic regulations, traffic-control devices, operation of vehicles and bicycles, pedestrian regulations, and truck routes and terminals regulations.

Any modifications to the roadway networks, which includes driveways, curbs, and sidewalks, would be subject to approval by the City of Brea, and any construction work within the right-of-way of any public roadway would require the issuance of a permit by the City of Brea.

5.12.1.2 EXISTING CONDITIONS

Traffic Study Area

Intersections

Twenty-nine key study intersections were evaluated and provide regional and local access to the study area. These intersections define the extent of the boundaries for this traffic impact investigation. Figure 5.12-1, *Traffic Study Area*, depicts the study locations and surrounding street system. Table 5.12-5, *Study Area Intersections, Location, and Jurisdictional Authority*, identifies which city the intersection is in and who has jurisdiction over the intersection. It should be noted that cities that border the intersection but do not have governing jurisdictions are included in parentheses.

Table 5.12-5 Study Area Intersections, Location, and Jurisdictional Authority

		Applicable Jurisdiction (City Location)				
	Key Intersection	Caltrans	City of Brea	City of La Habra	City of Fullerton	City of Placentia
1	Puente Street at Lambert Road	—	Brea	—	—	—
2	Brea Boulevard at Lambert Road	—	Brea	—	—	—
3	State College Boulevard at Lambert Road	—	Brea	—	—	—
4	SR-57 SB Ramps at Lambert Road	Caltrans	(Brea)	—	—	—
5	SR-57 NB Ramps at Lambert Road	Caltrans	(Brea)	—	—	—
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	—	Brea	—	—	—
7	Brea Boulevard at Birch Street	—	Brea	—	—	—
8	Randolph Avenue at Birch Street	—	Brea	—	—	—
9	State College Boulevard at Birch Street	—	Brea	—	—	—
10	S Associated Road at Birch Street	—	Brea	—	—	—
11	N Associated Road at Birch Street	—	Brea	—	—	—
12	Kraemer Boulevard at Birch Street	—	Brea	—	—	—
13	Randolph Avenue at Madison Way	—	Brea	—	—	—
14	Randolph Avenue at Brea Mall	—	Brea	—	—	—
15	Brea Mall South at State College Boulevard	—	Brea	—	—	—
16	Harbor Boulevard at Imperial Highway[1]	Caltrans	—	(La Habra)	(Fullerton)	--
17	Puente Street at Imperial Highway	Caltrans	(Brea)	--	(Fullerton)	--
18	Brea Boulevard at Imperial Highway	Caltrans	(Brea)	—	—	—
19	Randolph Avenue at Imperial Highway	Caltrans	(Brea)	—	—	—
20	State College Boulevard at Imperial Highway[1]	Caltrans	(Brea)	—	—	—
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans	(Brea)	—	—	—

Table 5.12-5 Study Area Intersections, Location, and Jurisdictional Authority

Key Intersection		Applicable Jurisdiction (City Location)				
		Caltrans	City of Brea	City of La Habra	City of Fullerton	City of Placentia
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans	(Brea)	—	—	—
23	Associated Road at Imperial Highway	Caltrans	(Brea)	—	—	—
24	Castlegate Ln/Placentia Ave at Imperial Hwy	Caltrans	(Brea)	—	—	—
25	Kraemer Boulevard at Imperial Highway	Caltrans	(Brea)	—	—	—
26	Brea Boulevard at Bastanchury Road	—	—	—	Fullerton	--
27	State College Boulevard at Bastanchury Road	—	—	—	Fullerton	--
28	Placentia Avenue at Bastanchury Road	—	—	—	—	Placentia
29	Kraemer Boulevard at Bastanchury Road	—	—	—	—	Placentia

Source: LLG 2020.
Note:
[1] CMP intersection

The LOS investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects, and the proposed project.

Existing Roadways

The principal local network of streets serving the project area includes Lambert Road, Birch Street, Imperial Highway, Brea Boulevard, and State College Boulevard. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

- **Lambert Road** is a six-lane, divided roadway west of Kraemer Boulevard and a four-lane, divided roadway east of Kraemer Boulevard, oriented in the east-west direction. The posted speed limit on Lambert Road is 45 miles per hour (mph) west of SR-57 Freeway and 50 mph east of SR-57 Freeway. On-street parking is not permitted along this roadway. Traffic signals control the study intersections of Lambert Road at Puente Street, Brea Boulevard, State College Boulevard, SR-57 SB Ramps, SR-57 NB Ramps, and Santa Fe Road/Kraemer Boulevard. Lambert Road is designated as a Major Arterial in the City's Master Plan of Roadways.

- **Birch Street** is a four-lane, divided roadway oriented in the east-west direction. The posted speed limit on Birch Street is 50 mph. On-street parking is not permitted along this roadway. Traffic signals control the study intersections of Birch Street at Brea Boulevard, Randolph Avenue, State College Boulevard, S Associated Road, N Associated Road, and Kraemer Boulevard. Birch Street is designated as a Primary Arterial in the City's Master Plan of Roadways.

- **Imperial Highway** is a six-lane, divided roadway generally oriented in the east-west direction. The posted speed limit on Imperial Highway is 45 mph west of the SR-57 Freeway and 50 mph east of the SR-57 Freeway. On-street parking is not permitted along this roadway. A traffic signal controls the study intersections of Imperial Highway at Harbor Boulevard, Puente Street, Brea Boulevard, Randolph Avenue, State College Boulevard, SR-57 SB Ramps, SR-57 NB Ramps, Associated Road, Placentia

Avenue, and Kraemer Boulevard. Imperial Highway is designated as a Smart Street in the City's Master Plan of Roadways.

- **Brea Boulevard** is a four-lane, divided roadway generally oriented in the north-south direction. The posted speed limit on Brea Boulevard is 40 mph south of Imperial Highway and 35 mph north of Imperial Highway. On-street parking is not permitted along this roadway. A traffic signal controls the study intersections of Brea Boulevard at Bastanchury Road, Imperial Highway, Birch Street, and Lambert Road. Brea Boulevard is designated as a Primary Arterial in the City's Master Plan of Roadways.

- **State College Boulevard** is a four-lane, divided roadway generally oriented in the north-south direction that borders the Brea Mall on the east. The posted speed limit on State College Boulevard is 40 mph. On-street parking is not permitted along this roadway. A traffic signal controls the study intersections of State College Boulevard at Bastanchury Road, Imperial Highway, Birch Street, and Lambert Road. Lambert Road is designated as a Primary Arterial in the City's Master Plan of Roadways.

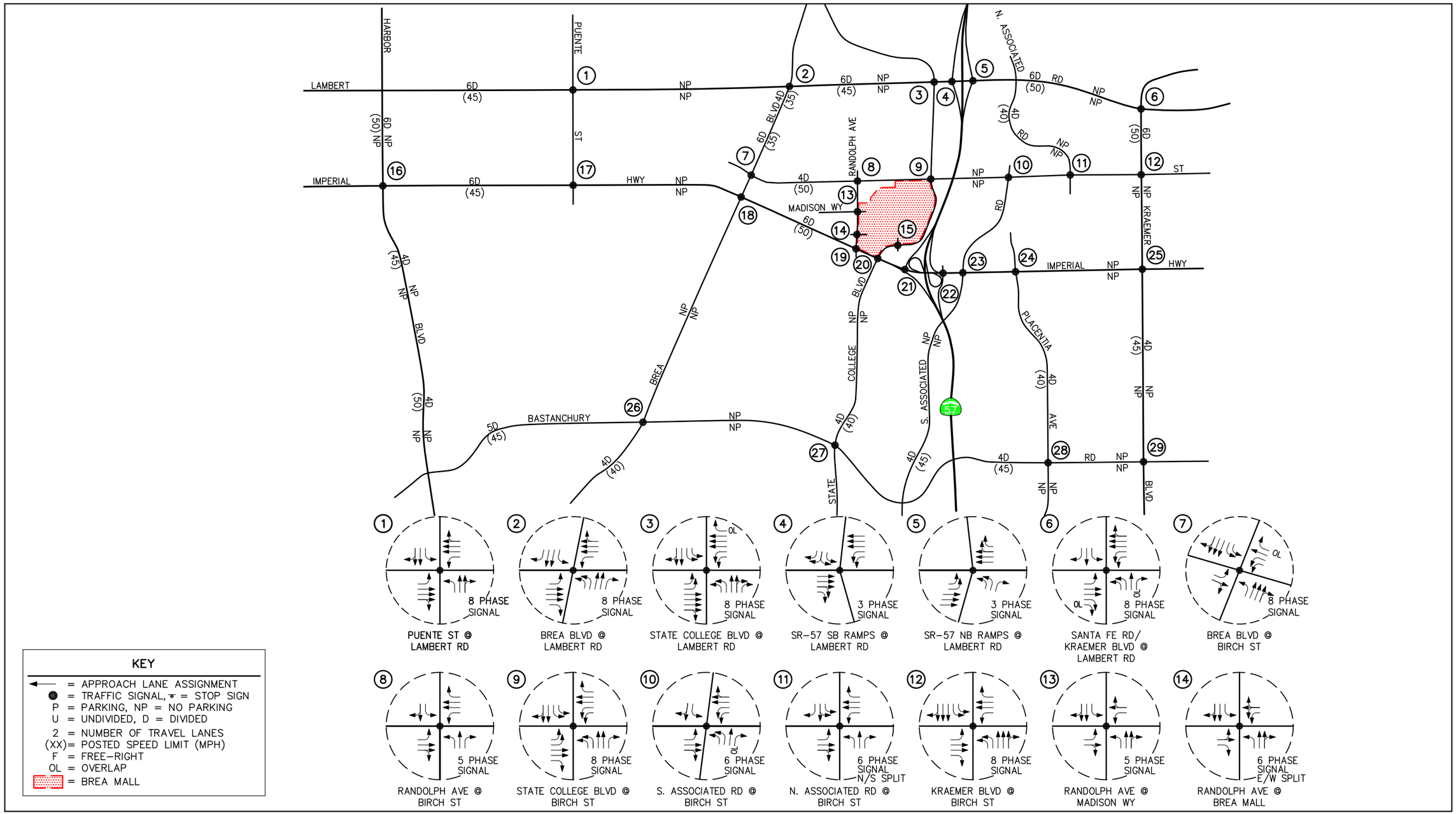
- **Randolph Avenue** is a four-lane, divided roadway oriented in the north-south direction that borders the Brea Mall on the west. The posted speed limit on Randolph Avenue is 40 mph. On-street parking is not permitted along this roadway. Traffic signals control the study intersections of Randolph Avenue at Madison Way/Brea Mall and Brea Mall.

Figures 5.12-2a and 5.12-2b, *Existing Roadway Conditions*, present an inventory of the existing roadway conditions for the arterials and intersections evaluated. These figures identify the number of travel lanes for key arterials as well as intersection configurations and controls for the key area study intersections.

Brea Mall Access

The Brea Mall can be accessed from three of the four surrounding streets bordering the subject property: State College Boulevard, Randolph Avenue, and Birch Street. No vehicular access is provided from Imperial Highway. Vehicular access from Randolph Avenue is currently provided by two signalized intersections, and one signalized access is provided along Birch Street. From State College Boulevard, three signalized intersections provide access to the Brea Mall.

Figure 5.12-2a - Existing Roadway Conditions
5. Environmental Analysis



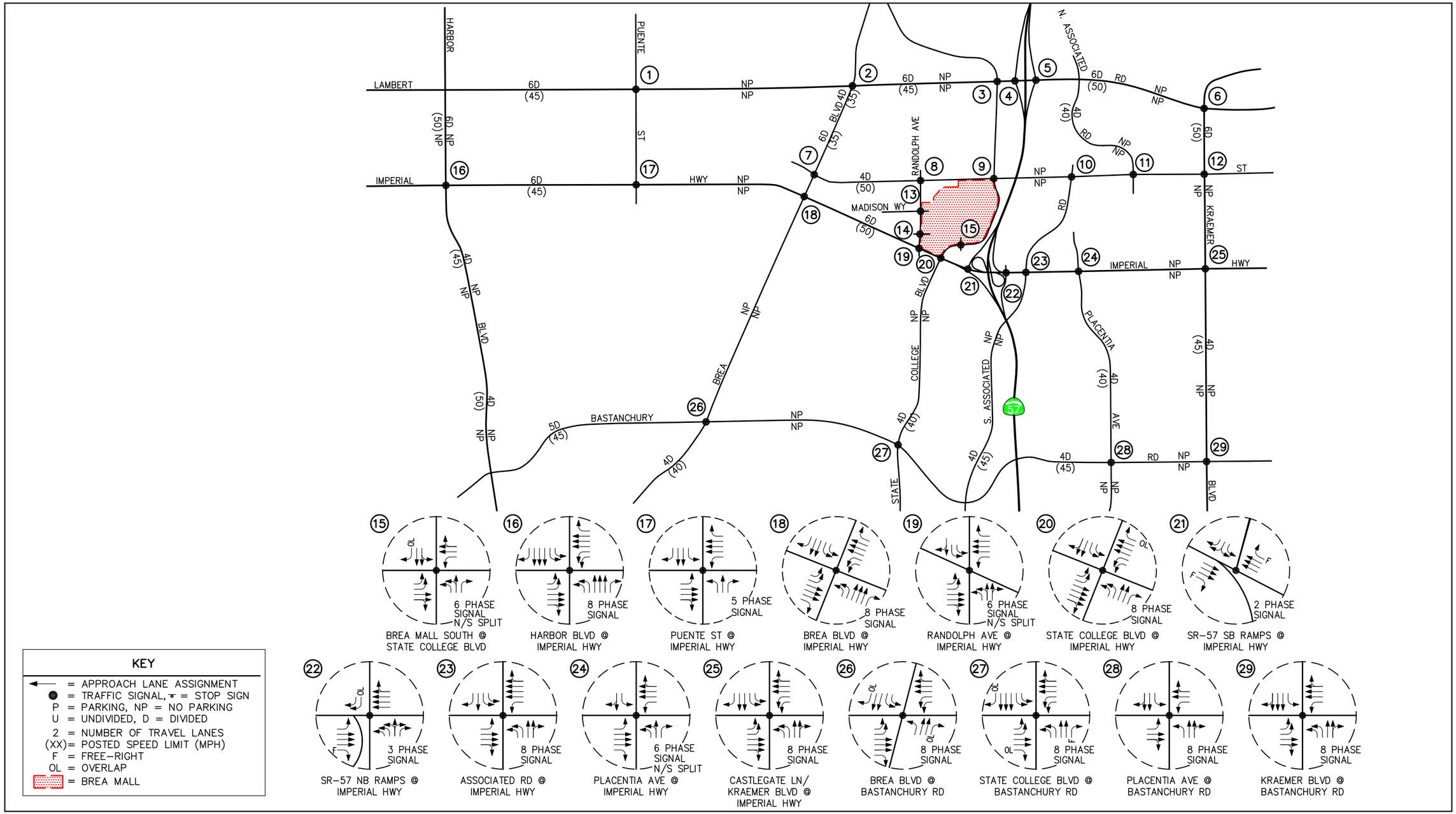
NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

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Figure 5.12-2b - Existing Roadway Conditions
5. Environmental Analysis



NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

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Existing Traffic Level of Service

HCM Methodology – Intersection Delay

Existing daily, AM peak hour, and PM peak hour traffic volumes for the 29 key study intersections and 23 key roadway segments evaluated in this report were obtained from manual turning movement counts conducted by National Data and Surveying Services in 2018 and 2019 (see Appendix B, Existing Traffic Count Data, in the TIA, Appendix I of the DEIR). The 2018 count locations have been grown by 1 percent for a baseline Year 2019 traffic condition. In the TIA, Figure 3-6, Existing AM Peak Hour and Daily Traffic Volumes, Figure 3-7, Existing PM Peak Hour Peak Hour and Daily Traffic Volumes, and Figure 3-8, Existing Mid-Day Peak Hour and Weekend Traffic Volumes, illustrate the existing AM peak hour, PM peak hour, and Saturday traffic volumes, respectively, at the 29 key study intersections evaluated in this report. Appendix B in the TIA contains the detailed peak hour (weekday AM and PM, and midday Saturday) and daily traffic count sheets for the key intersections and roadway segments.

Intersections under the jurisdiction of the City of Brea, City of Fullerton, and Caltrans were analyzed based on the HCM 6 methodology.[1] Table 5.12-6, *Existing Intersection Level of Service – HCM*, shows the existing peak hour LOS calculations for the 27 key study intersections in the City of Brea and/or under Caltrans jurisdiction[2] based on existing traffic volumes and current street geometrics. As shown in this table, the intersection of State College Boulevard at Imperial Highway currently operates at an unacceptable LOS during the PM peak hour and weekend (Saturday) midday peak hour. The remaining 26 key study intersections currently operate at an acceptable LOS D or better during the during the weekday AM, weekday PM, and weekend (Saturday) midday peak hours.

Table 5.12-6 Existing Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	HCM s/v	LOS
1	Puente Street at Lambert Road	Brea (D)	AM	25.9	C
			PM	27.0	C
			Sat MD	17.7	B
2	Brea Boulevard at Lambert Road	Brea (D)	AM	38.6	D
			PM	38.4	D
			Sat MD	37.9	D
3	State College Boulevard at Lambert Road	Brea (D)	AM	34.5	C
			PM	38.5	D
			Sat MD	38.3	D
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	37.8	D
			PM	21.8	C
			Sat MD	30.5	C

[1] Operating conditions for the key study intersections under Caltrans jurisdiction were evaluated using the methodology outlined in Chapter 19 of HCM 6 for signalized intersections.

[2] Intersections #28, Placentia Avenue at Bastanchury Road, and #29, Kraemer Boulevard at Bastanchury Road, are in the City of Placentia's jurisdiction and are evaluated using the ICU methodology.

Table 5.12-6 Existing Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	HCM s/v	LOS
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	32.2	C
			PM	21.0	C
			Sat MD	25.5	C
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	33.1	C
			PM	30.6	C
			Sat MD	24.9	C
7	Brea Boulevard at Birch Street	Brea (D)	AM	26.0	C
			PM	34.4	C
			Sat MD	28.4	C
8	Randolph Avenue at Birch Street	Brea (D)	AM	15.9	B
			PM	22.5	C
			Sat MD	21.2	C
9	State College Boulevard at Birch Street	Brea (D)	AM	38.7	D
			PM	32.6	C
			Sat MD	38.6	D
10	S. Associated Road at Birch Street	Brea (D)	AM	29.5	C
			PM	27.5	C
			Sat MD	21.1	C
11	N. Associated Road at Birch Street	Brea (D)	AM	27.4	C
			PM	27.4	C
			Sat MD	18.2	B
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	36.8	D
			PM	48.0	D
			Sat MD	33.7	C
13	Randolph Avenue at Madison Way	Brea (D)	AM	17.9	B
			PM	18.2	B
			Sat MD	18.7	B
14	Randolph Avenue at Brea Mall	Brea (D)	AM	8.4	A
			PM	18.9	B
			Sat MD	23.9	C
15	Brea Mall South at State College Boulevard	Brea (D)	AM	15.7	B
			PM	27.7	C
			Sat MD	34.0	C
16	Harbor Boulevard at Imperial Highway[1]	Caltrans (D)	AM	45.8	D
			PM	45.1	D
			Sat MD	40.5	D
17	Puente Street at Imperial Highway	Caltrans (D)	AM	20.6	C
			PM	20.9	C
			Sat MD	15.1	B
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	45.7	D
			PM	40.3	D
			Sat MD	43.5	D

Table 5.12-6 Existing Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	HCM s/v	LOS
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	13.2	B
			PM	26.7	C
			Sat MD	49.1	D
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	35.5	D
			PM	**55.7**	**E**
			Sat MD	**123.5**	**F**
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	16.2	B
			PM	17.6	B
			Sat MD	20.6	C
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	30.4	C
			PM	27.8	C
			Sat MD	34.3	C
23	Associated Road at Imperial Highway	Caltrans	AM	29.8	C
			PM	44.3	D
			Sat MD	36.0	D
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	20.0	B
			PM	29.7	C
			Sat MD	24.7	C
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	28.8	C
			PM	37.6	D
			Sat MD	32.6	C
26	Brea Boulevard at Bastanchury Road	Fullerton (D)	AM	44.1	D
			PM	42.5	D
			Sat MD	37.7	D
27	State College Boulevard at Bastanchury Road	Fullerton (D)	AM	33.6	C
			PM	51.4	D
			Sat MD	37.0	D

Source: LLG 2020. HCM LOS calculation worksheets are provided in Appendix D in the TIA.
Notes: HCM: highway capacity manual; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan. It is noted that the two study intersections within the City of Placentia jurisdiction (Intersections #28 and #29) were evaluated using the ICU methodology only per their criteria and has been omitted from the HCM tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.

ICU Methodology – General Plan Consistency

Existing weekday AM, weekday PM, and weekend (Saturday) midday peak hour operating conditions for the 27 key study intersections in Brea, La Habra, and Placentia were also evaluated using the ICU methodology for signalized intersections in order to ensure consistency with the transportation goals in Brea's 2003 General Plan and the Orange County CMP, and the requirements of the City of La Habra and City of Placentia. Table 5.12-7, *Existing Intersection Level of Service – ICU*, shows the existing peak hour LOS calculations for the 27 key study intersections based on existing traffic volumes and current street geometrics. As shown in this table, the intersection of State College Boulevard at Imperial Highway currently operates at

an unacceptable LOS during the weekend (Saturday) midday peak hour. The remaining 26 key study intersections currently operate at an acceptable LOS D or better during the during the weekday AM, weekday PM, and weekend (Saturday) midday peak hours.

Table 5.12-7 Existing Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	ICU	LOS
1	Puente Street at Lambert Road	Brea (D)	AM	0.522	A
			PM	0.591	A
			Sat MD	0.403	A
2	Brea Boulevard at Lambert Road	Brea (D)	AM	0.685	B
			PM	0.618	B
			Sat MD	0.620	B
3	State College Boulevard at Lambert Road	Brea (D)	AM	0.672	B
			PM	0.647	B
			Sat MD	0.649	B
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	0.716	C
			PM	0.587	A
			Sat MD	0.697	B
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	0.783	C
			PM	0.543	A
			Sat MD	0.656	B
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	0.591	A
			PM	0.498	A
			Sat MD	0.444	A
7	Brea Boulevard at Birch Street	Brea (D)	AM	0.380	A
			PM	0.603	B
			Sat MD	0.435	A
8	Randolph Avenue at Birch Street	Brea (D)	AM	0.338	A
			PM	0.541	A
			Sat MD	0.448	A
9	State College Boulevard at Birch Street	Brea (D)	AM	0.506	A
			PM	0.643	B
			Sat MD	0.605	B
10	S. Associated Road at Birch Street	Brea (D)	AM	0.592	A
			PM	0.592	A
			Sat MD	0.491	A
11	N. Associated Road at Birch Street	Brea (D)	AM	0.520	A
			PM	0.616	B
			Sat MD	0.370	A
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	0.532	A
			PM	0.605	B
			Sat MD	0.448	A

Table 5.12-7 Existing Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	ICU	LOS
13	Randolph Avenue at Madison Way	Brea (D)	AM	0.134	A
			PM	0.234	A
			Sat MD	0.279	A
14	Randolph Avenue at Brea Mall	Brea (D)	AM	0.132	A
			PM	0.343	A
			Sat MD	0.430	A
15	Brea Mall South at State College Boulevard	Brea (D)	AM	0.176	C
			PM	0.423	A
			Sat MD	0.562	A
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	0.755	C
			PM	0.735	C
			Sat MD	0.651	B
17	Puente Street at Imperial Highway	Caltrans (D)	AM	0.548	A
			PM	0.563	A
			Sat MD	0.457	A
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	0.752	C
			PM	0.738	C
			Sat MD	0.744	C
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	0.402	A
			PM	0.618	B
			Sat MD	0.688	B
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	0.660	B
			PM	0.778	C
			Sat MD	**0.981**	**E**
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.550	A
			PM	0.674	B
			Sat MD	0.744	C
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.605	B
			PM	0.671	B
			Sat MD	0.724	C
23	Associated Road at Imperial Highway	Caltrans	AM	0.673	B
			PM	0.746	C
			Sat MD	0.681	B
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	0.575	A
			PM	0.668	B
			Sat MD	0.645	B
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	0.564	A
			PM	0.706	C
			Sat MD	0.602	B
28	Placentia Avenue at Bastanchury Road	Placentia (D)	AM	0.641	B
			PM	0.781	C
			Sat MD	0.591	A

Table 5.12-7 Existing Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	ICU	LOS
29	Kraemer Boulevard at Bastanchury Road	Placentia (D)	AM	0.589	A
			PM	0.695	B
			Sat MD	0.532	A

Source: LLG 2020. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: IICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan. It is noted that the two study intersections within the City of Fullerton jurisdiction (Intersections #26 and #27) were evaluated using the HCM methodology only per their criteria and has been omitted from the ICU tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

Caltrans Mainline Segments

Table 5.12-8, *Existing Peak Hour Freeway Mainline Capacity Analysis*, summarizes the peak hour level of service results at the six freeway segments. As shown in this table, all freeway segments currently operate at LOS C or better during the AM and/or PM peak hours.

Table 5.12-8 Existing Peak Hour Freeway Mainline Capacity Analysis

#	SR-57 Segments	# Lanes	Time Period	Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS
1	SR-57 Northbound – South of Imperial Highway	5	AM	1,476	22.7	C
			PM	1,199	18.4	C
			Sat Midday	1,455	22.4	C
2	SR-57 Northbound – South of Lambert Road	6	AM	1,104	17.0	B
			PM	975	15.0	B
			Sat Midday	1,062	16.3	B
3	SR-57 Northbound – North of Lambert Road	4	AM	1,464	22.6	C
			PM	1,454	22.4	C
			Sat Midday	1,461	22.5	C
4	SR-57 Southbound – North of Lambert Road	4	AM	1,590	24.7	C
			PM	1,457	22.4	C
			Sat Midday	1,696	26.6	D
5	SR-57 Southbound – South of Lambert Road	4	AM	1,396	21.5	C
			PM	1,414	21.8	C
			Sat Midday	1,407	21.6	C
6	SR-57 Southbound – South of Imperial Highway	4	AM	1,341	20.6	C
			PM	1,428	22.0	C
			Sat Midday	1,434	22.1	C

Source: LLG 2020. The Basic Freeway Segment Analysis calculation worksheets for the six freeway segments are provided in Appendix H in the TIA, Appendix I of the DEIR.
Notes: pc/h/ln: passenger cars per hour per lane; pc/mil/ln: passenger cars per mile per lane
Bold: exceeds minimum acceptable LOS.

Alternative Modes of Transportation

Pedestrian Circulation

Pedestrian circulation is provided along the existing sidewalk system and internal pedestrian pathways. Sidewalks are generally provided throughout the City along with crosswalks at most major intersections. State College Boulevard, Birch Street, Randolph Avenue, and Imperial Highway provide pedestrians connectivity via the existing sidewalks, linking the project area to the surrounding commercial area.

Bikeways

The City of Brea promotes bicycling as a means of mobility and a way to improve the quality of life within its community. The Bikeway Plan (see Figure 3-5 in the TIA) recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the City. An existing Class II bike lane is provided along Birch Street, from just west of State College Boulevard to the east, east of SR-57 and State College Boulevard, north of Birch Street. The Tracks at Brea, which are separated east/west Class I bikeway facility, is located one block to the north of the Brea Mall. In addition, there is a proposed Class II bike lane along Birch Street to the west and along State College Boulevard to the south.

Transit

Public transit bus service is provided in the project area by the Orange County Transportation Authority (OCTA). OCTA operates five bus routes on Birch Street and State College Boulevard, four of which, converge at the Brea Transit Center within the Brea Mall:

- **OCTA Route 57 (Brea to Newport Beach).** Route 57 is a local bus route serving the cities of Brea, Fullerton, Anaheim, Orange, Santa Ana, Costa Mesa, and Newport Beach. The major routes of travel include State College Boulevard and Bristol Street. Nearest to the project area are bus stops along State College Boulevard at the intersections of Imperial Highway and Birch Street. Route 57 operates on approximate 15-minute headways during weekdays and 30-minute headways on weekends. The Brea Mall Transit Center is served by this route.

- **OCTA Route 129 (La Habra to Anaheim).** Route 129 is a community bus route serving the Cities of Anaheim, Placentia, Yorba Linda, Brea, and La Habra. The major routes of travel include La Habra Boulevard, Brea Boulevard, Birch Street, and Kraemer Boulevard. Nearest to the project area are bus stops along Brea Boulevard at the intersection of Birch Street. Route 129 operates on approximate 30-minute headways during weekdays and 60-minute headways on weekends. The Brea Mall Transit Center is served by this route.

- **OCTA Route 143 (La Habra to Brea).** Route 143 is a community bus route serving the cities of Fullerton, Brea, and La Habra. The major routes of travel include Whittier Boulevard, Harbor Boulevard, Brea Boulevard, and Birch Street. Nearest to the project area are bus stops on Brea Boulevard at Imperial Highway, Birch Street at Randolph Avenue, Birch Street at State College Boulevard, and at Brea Mall.

Route 143 operates on approximate 75-minute headways during weekdays and 65-minute headways on weekends. The Brea Mall area is served by this route.

- **OCTA Route 153 (Brea to Anaheim).** Route 153 is a community bus route serving the cities of Brea, Placentia, Fullerton, Anaheim, and Orange. The major routes of travel include Placentia Avenue. Nearest to the project area are bus stops on Birch Street at the intersection with State College Boulevard. Route 153 operates on approximate 60-minute headways during weekdays and weekends. The Brea Mall Transit Center is served by this route.

- **OCTA Route 213 (Brea to Irvine Express).** Route 213 is an express bus route serving the cities of Brea, Placentia, Fullerton, Anaheim, Orange, Tustin, Santa Ana, and Irvine via the SR-55 Freeway. Nearest to the project area are bus stops on Brea Boulevard at the intersection with Birch Street. Route 213 operates on approximate 30-minute headways during weekday peak hours; no bus service is provided on the weekends. The Brea Mall Transit Center is served by this route.

Figure 5.12-3, *OCTA Routes Within the Brea Mall Site*, identifies the location of the existing bus stops and transit routes near the Brea Mall. Pursuant to the CEQA Guideline Section 15064.3(b)(1), projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within half a mile of an existing major transit stop or an existing stop along a high quality transit corridor are presumed to have a less-than-significant impact on VMT. Pursuant to the Public Resources Code Section 21064.3, a major transit stop is 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. Based on bus schedules, the Brea Mall Transit Center does not qualify as a major transit stop because the frequency of service as buses arrive and depart the Brea Mall Transit Center is greater than 15 minutes during the weekday morning and evening commutes hours.

5.12.2 Thresholds of Significance

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

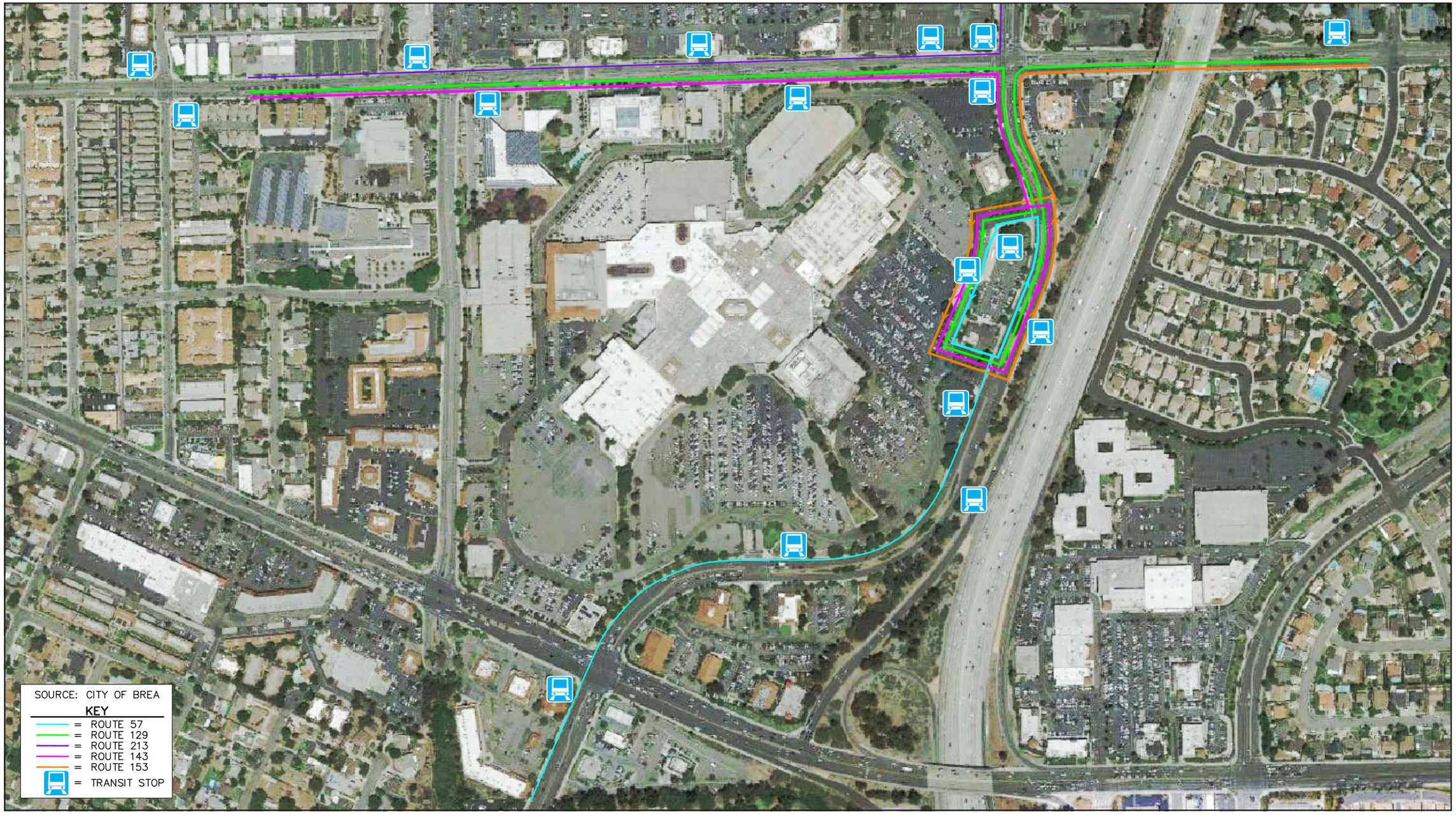
T-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

T-2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4 Result in inadequate emergency access.

Figure 5.12-3 - OCTA Routes Within the Brea Mall Site
5. Environmental Analysis



Source: Linscott, Law, & Greenspan Engineers, 2019

5. Environmental Analysis
TRANSPORTATION

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Level of Significance Criteria

City of Brea Level of Service Criteria

HCM – Intersection Delay

For the HCM analysis, a significant LOS impact occurs when the proposed project causes the LOS at an intersection to fall below LOS D with the addition of project traffic to baseline conditions. For intersections that already operate at unacceptable LOS E or F under the baseline conditions, a significant impact is defined as the proposed project causing an increase in average critical delay value by 2.0 seconds or more. This criteria applies to intersections within the sole jurisdiction of the City of Brea.

ICU – General Plan Consistency

For the ICU analysis, an impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F, or if the project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F. This criteria applies to intersections that are under the sole jurisdiction of the City of Brea.

Caltrans Level of Service Criteria – HCM Analysis

For the HCM analysis of intersections that are under Caltrans jurisdiction (i.e., study locations along Imperial Highway [SR-90]), the City applies Caltrans' LOS significance criteria for intersections and freeway mainline segments.

Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on state highway facilities; it does not require that LOS "D" be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The Caltrans Traffic Impact Study Guidelines states that if an existing state-owned facility operates at less than LOS D, the existing service level should be maintained. Based on Caltrans criteria, a project's impact is considered significant if the project causes the LOS to change from an acceptable LOS (i.e., LOS D or better) to a deficient LOS (i.e., LOS E or F). This criteria applies to study locations along Imperial Highway (SR-90).

City of La Habra

For the ICU analysis, LOS D is the acceptable condition that should be maintained during the morning and evening peak commute hours on all intersections within the City of La Habra, except those on OCTA's CMP Highway System where an impact is considered significant if the project causes an intersection to degrade to LOS E or F, or if the project increases traffic demand at a signalized study intersection by 0.010 or greater and the intersection is forecast to operate at LOS E or F. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

City of Fullerton

For the HCM analysis, the City of Fullerton considers an impact to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F.

City of Placentia

For the ICU analysis, an impact is considered to be significant if the project causes an intersection at LOS D or better to degrade to LOS E or F, or if the project increases traffic demand at a signalized study intersection by 0.010 or greater and the intersection is forecast to operate at LOS E or F.

CMP Highway System

Intersections #16, Harbor Boulevard at Imperial Highway; #20, State College Boulevard at Imperial Highway; #21, SR-57 SB Ramps at Imperial Highway; and #22, SR-57 NB Ramps at Imperial Highway, are on OCTA's CMP Highway System. Per the CMP, a significant impact is identified if the project causes the CMP facility to operate worse than LOS E, and increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project.

5.12.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP TRAF-1 The proposed project is required to pay development impact fees to the City of Brea pursuant to the City's AB 1600 Transportation Improvement Nexus Program (Ordinance 966). Based on a transportation improvement nexus program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, effective February 4, 2012. Fair-share fees serve to offset or mitigate the cumulative traffic impacts caused by new development. The program ensures all future development in the City of Brea contributes on a fair-share basis.

PPP TRAF-2 Modifications to the roadway network, including driveways, curbs, and sidewalks, are subject to approval by the City of Brea. Construction work within the right-of-way of a public roadway requires the issuance of a permit by the City of Brea.

PPP TRAF-3 As part of the project review process, the City of Brea is requiring that the Brea Mall prepare a parking management plan for construction and operational activities to address holiday traffic and parking during the peak holiday season. The requirement to prepare a submit a parking management plan for holiday traffic will be incorporated as conditions of approval for the project.

PPP TRAF-4 The proposed project includes installation of Class II bike lanes and/or sharrow bike lanes on the "ring road" and the signalized entries of the Brea Mall. The requirement to improve

bicycle and pedestrian connections will be incorporated as conditions of approval for the project.

5.12.4 Environmental Impacts

5.12.4.1 METHODOLOGY

The traffic report analyzes existing and future weekday daily, AM peak hour and PM peak hour traffic conditions for a near-term (Year 2022) and long-term (Year 2040) traffic setting upon completion of the proposed project. The traffic report analyzed existing and future traffic operations during the morning and evening commute peak hours (7:00 to 9:00 AM, and 4:00 to 6:00 PM) on a typical weekday, because these are generally when the busiest traffic conditions occur. As a conservative measure in assessing potential traffic impacts of the project, the traffic report also included an evaluation of Saturday midday conditions (with the peak expected to occur between 11:00 AM and 3:00 PM).

Intersections under the jurisdiction of the City of Brea, Fullerton, and Caltrans are analyzed based on the HCM 6 methodology.[3] Intersections in the City of Brea, the City of La Habra, and the City of Placentia are analyzed using the ICU methodology. Long-term (Year 2040) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA using the OCTAM 4.0 Year 2040 Model.

Traffic Forecasting

A multistep process has been utilized in order to estimate the traffic impact characteristics of the proposed project. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The second step is traffic distribution, which consists of the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is based on taking the route with the shortest travel time—typically it would be the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, and traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. The impact of the proposed project is then compared to the operational (LOS) conditions at study intersections using expected future traffic volumes with and without forecast project traffic.

Trip Generation

Existing and Project Trip Generation

The environmental setting normally constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant (CEQA Guidelines Section 15125(a)). However, pursuant to the *North County Advocates v. City of Carlsbad (2015) 241 Cal.App. 4th 94,* lead agencies have discretion to consider

[3] Existing AM and PM peak hour operating conditions for the key study intersections under Caltrans jurisdiction were evaluated using the methodology outlined in Chapter 19 of the Highway Capacity Manual 6 (HCM 6) for signalized intersections.

conditions over a range of time periods to account for a temporary lull or spike in operations. As with any regional shopping center, the Brea Mall experiences periodic transitions in tenants and occupancy. The Sears department store was in continuous operations from 1977 until it was vacated in April 2018. The first floor of the Sears department store has been reoccupied by Q's Fashion retail store. Therefore, this EIR considers full occupancy associated with historical operations of the retail use that was vacated by Sears as the baseline for the transportation analysis.

The existing Brea Mall currently encompasses 1,291,433 square feet of gross leasable area (GLA), of which 1,210,438 square feet of GLA are now occupied, and consists of several major department stores and a central core of a mixture of retail shops and restaurant/food uses. Trip generation associated with the existing occupied uses was based on traffic counts conducted for this study during the weekday AM and PM peak period and Saturday midday peak period. To account for trips corresponding with the vacant but entitled and historically occupied square footage of the former Sears (i.e., the portion not re-occupied by Q's Fashion), trip generation for the 80,995 square feet of vacant GLA was estimated based on the application of ITE rates/equations, and resulting trips were then assigned and added to the raw traffic counts collected at study intersections.

Table 5.12-9, *Project Traffic Generation Rates and Forecasts*, summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed project and also presents the project's forecast weekday peak hour, weekday daily, weekend (Saturday) midday, and weekend daily traffic volumes. Generation equations and/or rates used in the traffic forecasting procedure are based on the 10th edition of *Trip Generation* by the Institute of Transportation Engineers and empirical trip generation rates developed from studies of existing Lifetime Fitness facilities (LLG 2020).

The project would generate a net increase of 4,140 weekday trips, with 315 trips produced in the AM peak hour and 424 trips produced in the PM peak hour on a typical weekday, and a net increase of 4,031 weekend trips on a Saturday, with 441 during the Saturday midday peak hour. It should be noted that traffic generation at the Brea Mall can vary significantly between normal peak periods and the peak holiday season. The trip generation estimated and analyzed in the EIR is based on the most probable incremental increase in traffic generated by the project on an average weekday and weekend.

Table 5.12-9 Project Traffic Generation Rates and Forecasts

Description	Weekday							Weekend (Saturday)			
	Daily	AM			PM			Daily	Midday		
	2-Way	Enter	Exit	Total	Enter	Exit	Total	2-way	Enter	Exit	Total
Trip Generation Factors											
Multifamily Housing (TE/DU)	5.44	26%	74%	0.36	61%	39%	0.44	4.91	49%	51%	0.44
Shopping Center (TE/TSF GLA)	EQ[1]	62%	38%	EQ[1]	48%	52%	EQ[1]	EQ[1]	52%	48%	EQ[1]
Lifetime Fitness (TE/TSF)	27.44	1.02	0.51	1.53	1.85	0.97	2.83	26.35	1.04	1.79	2.83
Existing Brea Mall (Historic Baseline) Trip Generation											
Shopping Center (1,291,433 SF)	34,241	494	303	797	1,732	1,876	3,608	43,537	2,429	2,242	4,671
Pass by Reduction[2]	-3,424	-25	-15	-40	-173	-188	-361	-4,354	-243	-224	-467
Existing Trip Generation Total	30,817	469	288	757	1,559	1,688	3,247	39,183	2,186	2,018	4,204
Proposed Brea Mall											
Shopping Center (1,313,058 SF)	34,630	501	307	808	1,753	1,900	3,653	43,988	34,630	501	307
Internal Capture[3]	*-747*	*-1*	*-1*	*-2*	*-22*	*-39*	*-61*	*-674*	*-747*	*-1*	*-1*
Pass by Reduction[2]	*-3,388*	*-25*	*-15*	*-40*	*-173*	*-186*	*-359*	*-4,331*	*-3,388*	*-25*	*-15*
Proposed Brea Mall Subtotal	30,495	475	291	766	1,558	1,675	3,233	38,983	30,495	475	291
Lifestyle Fitness (128,000 SF)	3,512	131	65	196	237	125	362	3,373	3,512	131	65
Residential (312 DU)	1,697	29	83	112	84	53	137	1,532	1,697	29	83
Internal Capture[3]	*-747*	*-1*	*-1*	*-2*	*-39*	*-22*	*-61*	*-674*	*-747*	*-1*	*-1*
Residential Subtotal	950	28	82	110	45	31	76	858	950	28	82
Proposed Brea Mall Total (312 DU; 1,441,058 SF)	34,957	634	438	1,072	1,840	1,831	3,671	43,214	2,358	2,287	4,645
Net Change (Proposed Project)	**4,140**	165	150	**315**	281	143	**424**	**4,031**	172	269	**441**

Source: LLG 2020.

Notes: SQ: Square Feet; TE/DU = trip end per dwelling unit; TE/TSF GLA= trip end per 1,000 Square Feet Gross Leasable Area; TE/TSF = trip ends per 1,000 Square Feet; EQ: equation

1 Trip Generation rates for the Shopping Center are based on the following equations:
- Weekday Daily: Ln(T) = 0.68Ln(X) + 5.57
- Weekday AM Peak Hour: T = 0.50(X) + 151.78
- Weekday PM Peak Hour: Ln(T) = 0.74Ln(X) + 2.89
- Saturday Daily: Ln(T) = 0.62Ln(X) + 6.24
- Saturday Peak Hour of Generator: Ln(T) = 0.79Ln(X) + 2.79

2 The pass-by trip reductions applied to retail trips are 10 percent for Weekday Daily, 5 percent for Weekday AM peak hour, 10 percent for Weekday PM peak hour, 10% for Saturday Daily, and 10 percent for Saturday Midday peak hour.

3 Consistent with the ITE Trip Generation Handbook, project trip generation was adjusted to account for internal capture between the retail and residential components of the project. As there is no Saturday internal capture worksheets available, weekday daily and weekday PM peak hour calculations have been applied to Saturday daily and Saturday midday peak hour.

Cumulative Traffic Conditions

Horizon year background traffic growth estimates have been calculated using an ambient traffic growth factor. This factor is intended to include unknown and future related projects in the study area, and to

account for regular growth in traffic volumes due to the development of projects outside the study area. Near-term (Year 2022) cumulative daily and peak hour traffic forecasts were projected by incorporating a 1.0 percent annual growth rate. Applied to the Year 2019 existing traffic volumes, this factor results in a 3.0 percent growth in existing volumes to the near-term horizon year 2022.

Traffic growth estimates also include seven related projects in a two-mile vicinity of the project (see Table 4-1, *Related Cumulative Projects within Two Miles*, in Chapter 4, *Environmental Setting*). The seven related projects are expected to generate 28,114 weekday daily trips, with 2,303 trips (1,134 inbound, 1,169 outbound) anticipated during the weekday AM peak hour and 2,571 trips (1,272 inbound, 1,299 outbound) produced during the weekday PM peak hour. On a weekend (Saturday), the related projects are forecast to generate 27,156 weekend daily trips, with 2,527 trips (1,301 inbound, 1,226 outbound) anticipated during the weekend midday peak hour. Table 6-2 in the TIA includes details on the trip generation associated with the cumulative projects. Figure 6-1 in the TIA illustrates the location of cumulative projects. The weekday daily and AM and PM peak hour traffic volumes associated with the six related projects in Year 2022 are presented in TIA Figures 6-2 and 6-3, respectively, whereas the weekday (Saturday) daily and weekend (Saturday) midday peak hour traffic volumes are presented in Figure 6-4 of the TIA.

In addition, the Caltrans roadway/interchange improvements associated with the SR-57 Lambert Interchange improvement project, now under construction, have been included in the Year 2022 and Year 2040 cumulative traffic conditions:

- **SR-57 SB Ramps at Lambert Road:** Widen the off-ramp to provide a second exclusive southbound left-turn lane. Restripe the shared southbound left-turn/through/right-turn lane to a second exclusive right-turn lane. Widen to provide a second exclusive eastbound right-turn lane. Modify the existing traffic signal.

- **SR-57 NB Ramps at Lambert Road:** Construct a loop on-ramp on the south leg. Remove dual eastbound exclusive left-turn lanes. Widen and restripe to provide a shared eastbound through/right-turn lane and an exclusive eastbound right-turn lane. Reconstruct the existing on-ramp for a free westbound right-turn lane. Modify the existing traffic signal

Long-term (Year 2040) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA using the OCTAM 4.0 Year 2040 Model (see Appendix I for additional details on the OCTAM 4.0 traffic modeling). At the direction of City staff, the Brea 265 Specific Plan has been included as a related project as part of Year 2040 background traffic conditions.

Trip Distribution and Assignment

The traffic was geographically distributed onto the street network by evaluating the layout of the study area roadway network and reviewing the land uses in the area. Traffic volumes were distributed and assigned to the adjacent street system based on the following considerations—recognition that the Brea Mall draws traffic from the surrounding region, and is not just a local attraction; site access points in correlation to the surrounding street system; major traffic carriers' and regional access routes' immediate proximity to the project area, such as SR-57 and Imperial Highway; circulation characteristics such as lane channelization and presence of traffic signals that affect travel patterns; existing traffic congestion areas; ingress/egress

availability at the project area; and input by City staff. The trip distribution percentages are applied to the project trip generation to determine the traffic volumes assigned to each intersection for the commercial and residential components respectively, as shown in Figures 5.12-4a and 5.12-4b, *Project Traffic Distribution Patterns – Commercial*, and Figures 5.12-5a and 5.12-5b, *Project Traffic Distribution Patterns – Residential*. It should be noted that project traffic has been distributed to the Brea Mall's existing site access intersections of Randolph Avenue at Brea Mall and Brea Mall South at State College Boulevard only due to the location of the proposed project in the southwest portion of the Brea Mall site. As shown in Figure 5.12-4a, approximately 36 percent and 54 percent of the project's new commercial traffic is forecast to utilize Randolph Avenue at Brea Mall and Brea Mall South at State College Boulevard, respectively. As shown in Figure 5.12-4b, approximately 83 percent and 17 percent of the Project's residential traffic utilize Randolph Avenue at Brea Mall and Brea Mall South at State College Boulevard, respectively.

The anticipated weekday AM and PM peak hour and weekend (Saturday) midday peak hour project traffic volumes associated with the proposed project are presented in TIA Figures 5-3, 5-4, and 5-5, respectively. Figures 5-4 and 5-5 of the TIA also present the weekday and weekend daily project traffic volumes, respectively. The traffic volume assignments presented in Figures 5-3 through 5-5 of the TIA reflect the traffic distribution characteristics shown in Figures 5.12-4 and 5.12-5 and the traffic generation forecast presented in Table 5.12-9.

Queuing Analysis

At the direction of the City of Brea and Caltrans, a focused Synchro assessment has been completed at the two project driveways located closest to Imperial Highway along State College Boulevard and Randolph Avenue to determine if the project entries have sufficient number and length of lanes to accommodate the anticipated traffic demand as to not back traffic up onto Imperial Highway. The queuing analysis uses the Average Queue methodology, which calculates the average queue value in terms of number of vehicles per lane. At signalized intersections, the vehicle storage needed for left-turn and right-turn lanes can vary based on vehicle demand and the green-time provided by the traffic signal. For the purposes of this traffic analysis, the minimum storage length of such lanes was calculated by multiplying the anticipated average queue length computed by the Synchro modeling program by 150 percent.

5.12.4.2 IMPACT ASSESSMENT

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-1: The project could potentially conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Threshold T-1]

This analysis describes the proposed project's impacts on the circulation network in the project vicinity.

Traffic

Existing Plus Project Traffic Conditions

The TIA Figures 5-6, 5-7 and 5-8 (see Appendix I) illustrate the weekday AM, and weekday PM peak hour, and weekend (Saturday) midday peak hour traffic volumes, respectively, at 29 key study intersections with the addition of the trips generated by the proposed project to existing traffic volumes. TIA Figures 5-7 and 5-8 also present the Existing Plus Project daily traffic volumes for a weekday and weekend, respectively.

HCM – Intersection Delay

The "Existing Plus Project" traffic conditions have been calculated based upon existing conditions and the estimated project traffic under the HCM methodology for 27 of the 29 intersections,[4] as shown in Table 5.12-10, *Existing Plus Project Peak Hour Intersection Capacity Analysis – HCM*. This traffic scenario was prepared to show the potential impacts of a project upon the circulation system as it currently exists. If this scenario has direct impacts, mitigation is needed to mitigate "project-level" impacts. As identified in this table, traffic associated with the proposed project would impact one of the 27 intersections under the HCM methodology:

- #19 – Randolph Avenue at Imperial Highway (Caltrans – weekend midday peak hour)

[4] Intersections #28 and #29 are within the sole jurisdiction of the City of Placentia and are evaluated using the ICU criteria.

Table 5.12-10 Existing Plus Project Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	25.9	C	26.0	C	0.1 s/v	No
			PM	27.0	C	27.1	C	0.1 s/v	No
			Sat MD	17.7	B	18.0	B	0.3 s/v	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	38.6	D	38.9	D	0.3 s/v	No
			PM	38.4	D	38.5	D	0.1 s/v	No
			Sat MD	37.9	D	38.0	D	0.1 s/v	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	34.5	C	35.7	D	1.2 s/v	No
			PM	38.5	D	38.9	D	0.4 s/v	No
			Sat MD	38.3	D	38.7	D	0.4 s/v	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	37.8	D	38.1	D	N/A	No
			PM	21.8	C	21.9	C	N/A	No
			Sat MD	30.5	C	30.9	C	N/A	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	32.2	C	33.9	C	N/A	No
			PM	21.0	C	21.0	C	N/A	No
			Sat MD	25.5	C	26.6	C	N/A	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	33.1	C	33.1	C	0.0 s/v	No
			PM	30.6	C	30.6	C	0.0 s/v	No
			Sat MD	24.9	C	24.9	C	0.0 s/v	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	26.0	C	26.2	C	0.2 s/v	No
			PM	34.4	C	34.7	C	0.2 s/v	No
			Sat MD	28.4	C	28.6	C	0.2 s/v	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	15.9	B	16.3	B	0.4 s/v	No
			PM	22.5	C	22.8	C	0.3 s/v	No
			Sat MD	21.2	C	21.6	C	0.4 s/v	No
9	State College Boulevard at Birch Street	Brea (D)	AM	38.7	D	38.9	D	0.2 s/v	No
			PM	32.6	C	32.9	C	0.3 s/v	No
			Sat MD	38.6	D	39.7	D	1.1 s/v	No

Table 5.12-10 Existing Plus Project Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	29.5	C	29.5	C	0.0 s/v	No
			PM	27.5	C	27.5	C	0.0 s/v	No
			Sat MD	21.1	C	21.6	C	0.5 s/v	No
11	N. Associated Road at Birch Street	Brea (D)	AM	27.4	C	27.4	C	0.0 s/v	No
			PM	27.4	C	27.6	C	0.2 s/v	No
			Sat MD	18.2	B	18.2	B	0.0 s/v	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	36.8	D	36.9	D	0.1 s/v	No
			PM	48.0	D	48.4	D	0.4 s/v	No
			Sat MD	33.7	C	33.8	C	0.1 s/v	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	17.9	B	17.9	B	0.0 s/v	No
			PM	18.2	B	18.6	B	0.4 s/v	No
			Sat MD	18.7	B	19.2	B	0.5 s/v	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	8.4	A	17.9	B	9.5 s/v	No
			PM	18.9	B	20.7	C	16.4 s/v	No
			Sat MD	23.9	C	28.7	C	4.8 s/v	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	15.7	B	22.8	C	7.1 s/v	No
			PM	27.7	C	31.9	C	4.2 s/v	No
			Sat MD	34.0	C	36.6	C	2.6 s/v	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	45.8	D	46.2	D	N/A	No
			PM	45.1	D	45.3	D	N/A	No
			Sat MD	40.5	D	40.5	D	N/A	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	20.6	C	20.8	C	N/A	No
			PM	20.9	C	21.4	C	N/A	No
			Sat MD	15.1	B	15.0	B	N/A	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	45.7	D	46.5	D	N/A	No
			PM	40.3	D	41.1	D	N/A	No
			Sat MD	43.5	D	44.4	D	N/A	No

Table 5.12-10 Existing Plus Project Intersection Level of Service – HCM

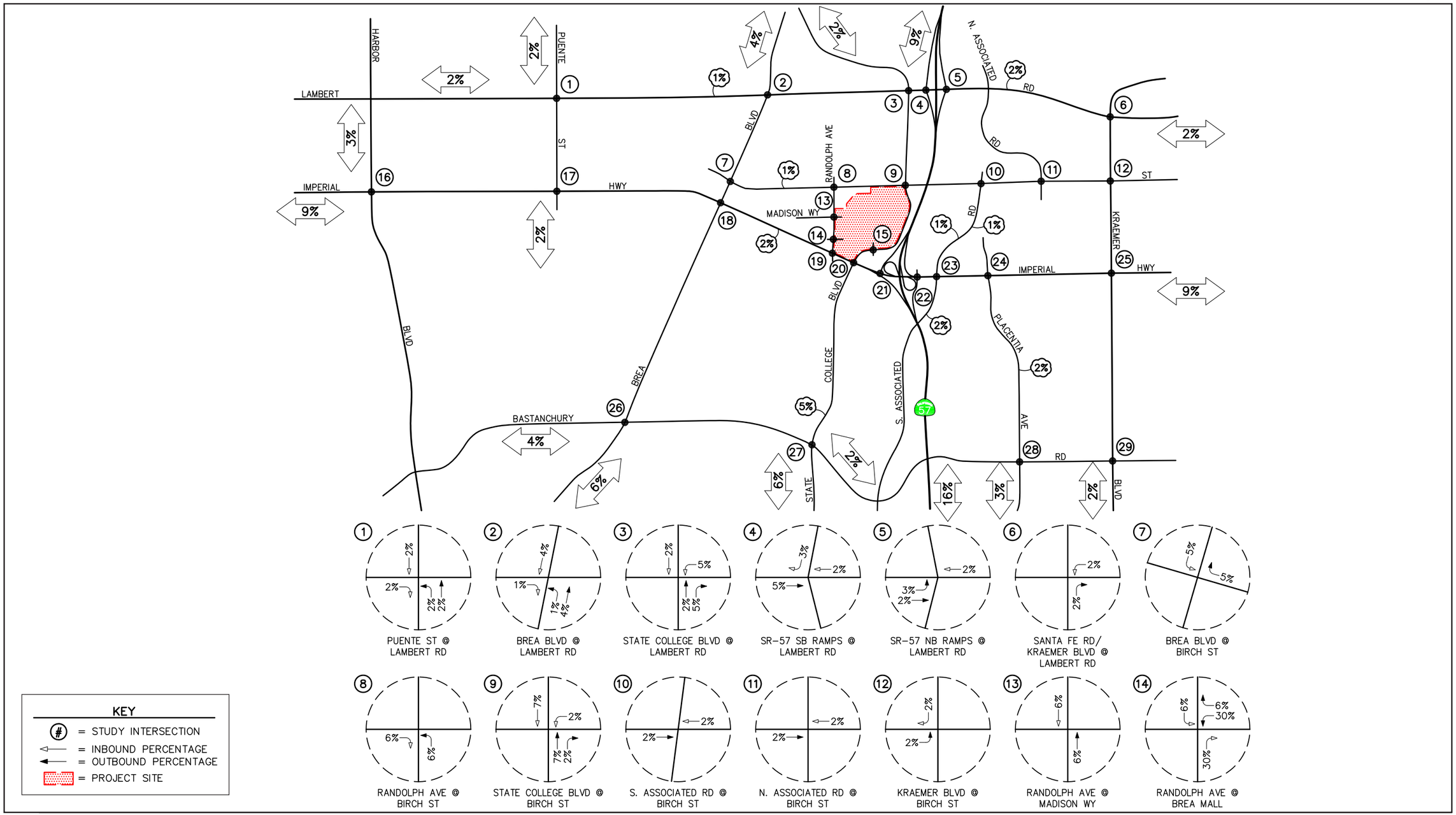
#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	13.2	B	15.7	B	N/A	No
			PM	26.7	C	31.5	C	N/A	No
			Sat MD	49.1	D	**59.4**	**E**	**N/A**	**Yes**
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	35.5	D	35.9	D	N/A	No
			PM	**55.7**	**E**	**64.2**	**E**	N/A	No
			Sat MD	**123.5**	**F**	**149.3**	**F**	N/A	No
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	16.2	B	16.3	B	N/A	No
			PM	17.6	B	18.1	B	N/A	No
			Sat MD	20.6	C	22.5	C	N/A	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	30.4	C	30.6	C	N/A	No
			PM	27.8	C	27.7	C	N/A	No
			Sat MD	34.3	C	36.3	D	N/A	No
23	Associated Road at Imperial Highway	Caltrans	AM	29.8	C	30.0	C	N/A	No
			PM	44.3	D	44.8	D	N/A	No
			Sat MD	36.0	D	36.4	D	N/A	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	20.0	B	20.2	C	N/A	No
			PM	29.7	C	29.9	C	N/A	No
			Sat MD	24.7	C	25.0	C	N/A	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	28.8	C	28.8	C	N/A	No
			PM	37.6	D	38.1	D	N/A	No
			Sat MD	32.6	C	32.7	C	N/A	No
26	Brea Boulevard at Bastanchury Road	Fullerton (D)	AM	44.1	D	44.9	D	0.8 s/v	No
			PM	42.5	D	43.3	D	0.8 s/v	No
			Sat MD	37.7	D	37.8	D	0.1 s/v	No

Table 5.12-10 Existing Plus Project Intersection Level of Service – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
27	State College Boulevard at Bastanchury Road	Fullerton (D)	AM	33.6	C	33.7	C	0.1 s/v	No
			PM	51.4	D	51.7	D	0.3 s/v	No
			Sat MD	37.0	D	37.2	D	0.2 s/v	No

Source: LLG 2020. HCM LOS calculation worksheets are provided in Appendix D in the TIA, Appendix I of the DEIR.
Notes: HCM: highway capacity manual; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
It is noted that the two study intersections within the City of Placentia jurisdiction (Intersections #28 and #29) were evaluated using the ICU methodology only per their criteria and has been omitted from the HCM tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

Figure 5.12-4a - Project Traffic Distribution Patterns - Commercial
5. Environmental Analysis



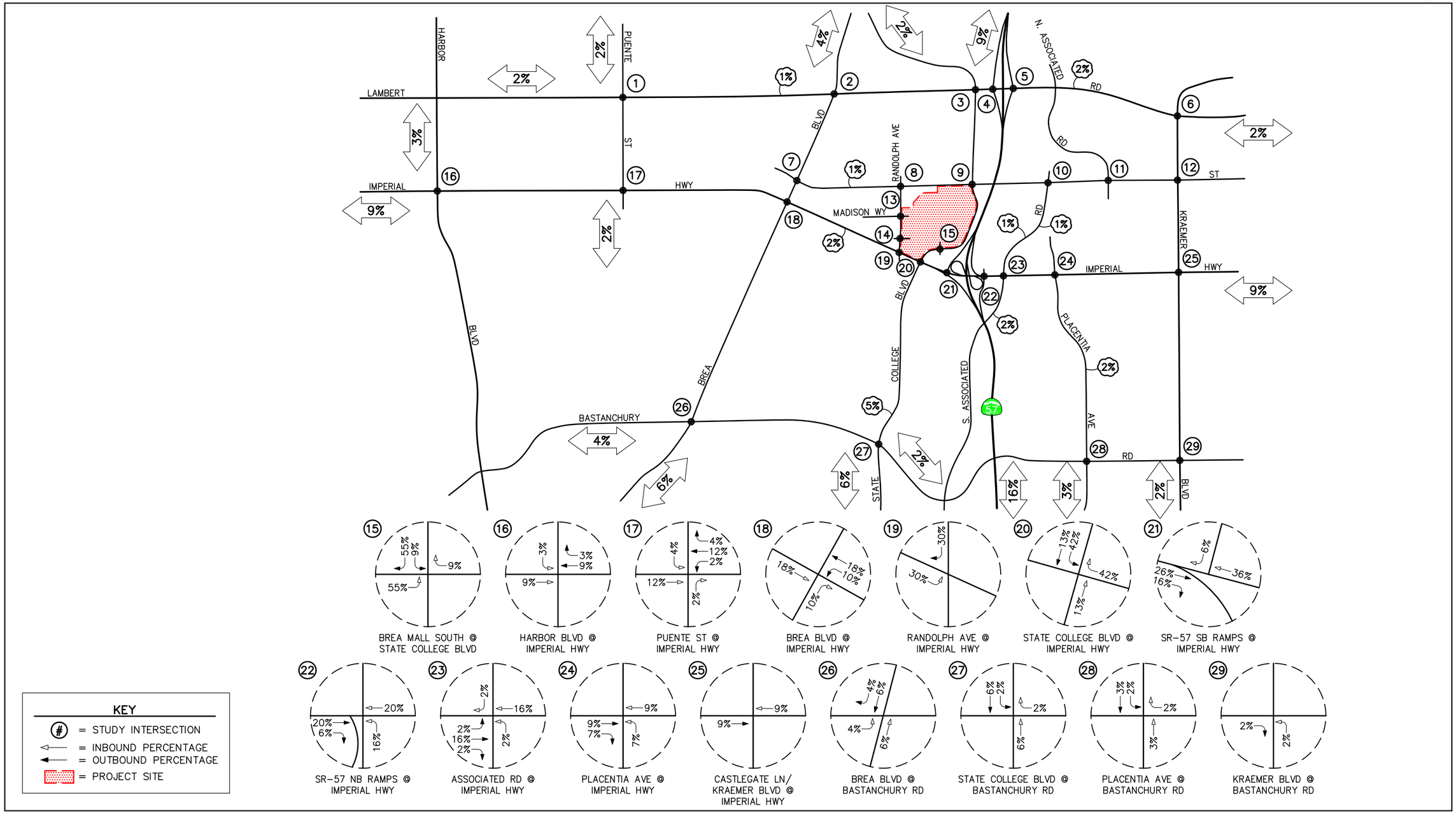
NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

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Figure 5.12-4b - Project Traffic Distribution Patterns - Commercial
5. Environmental Analysis



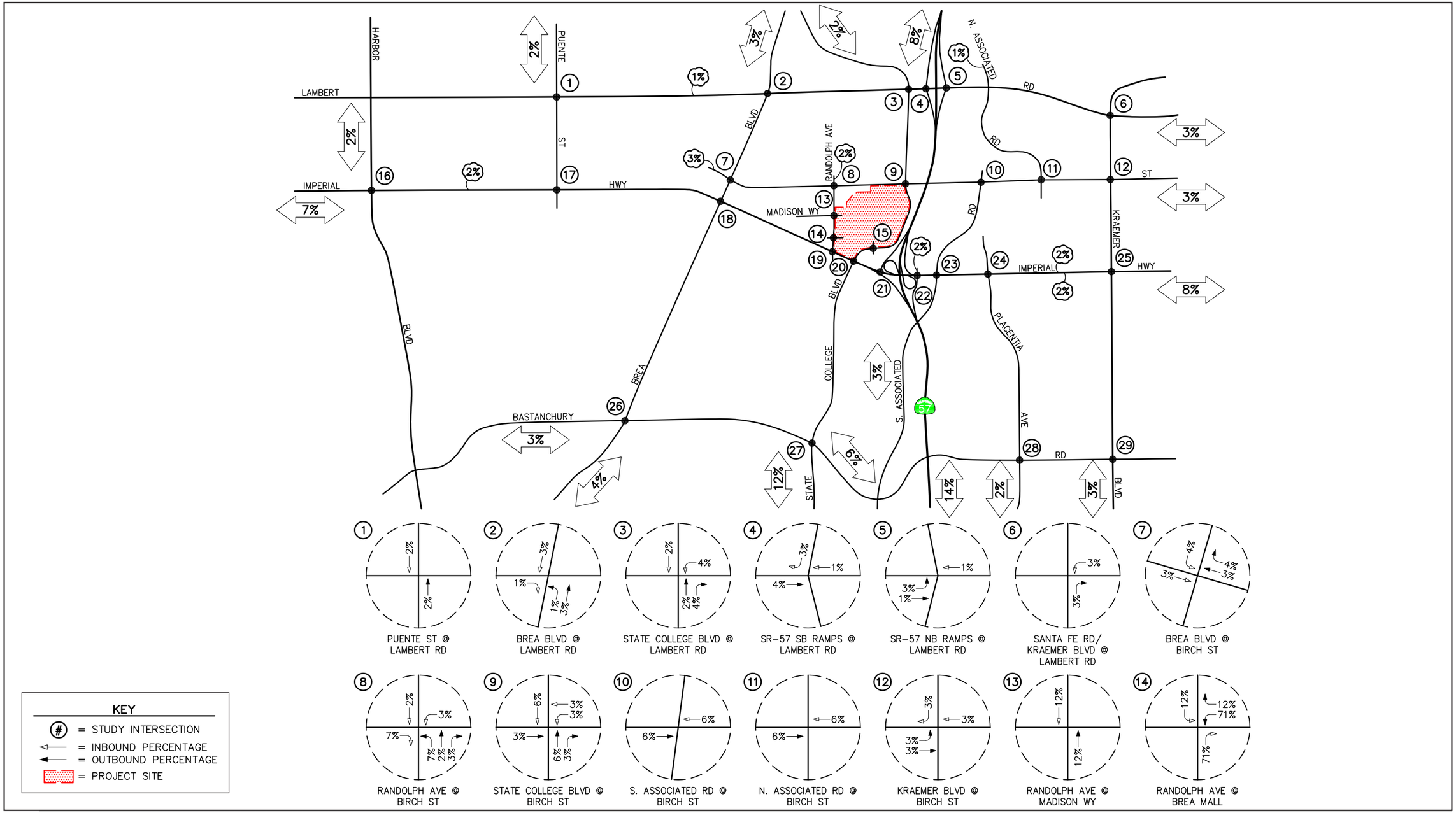
NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

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Figure 5.12-5a - Project Traffic Distribution Patterns - Residential



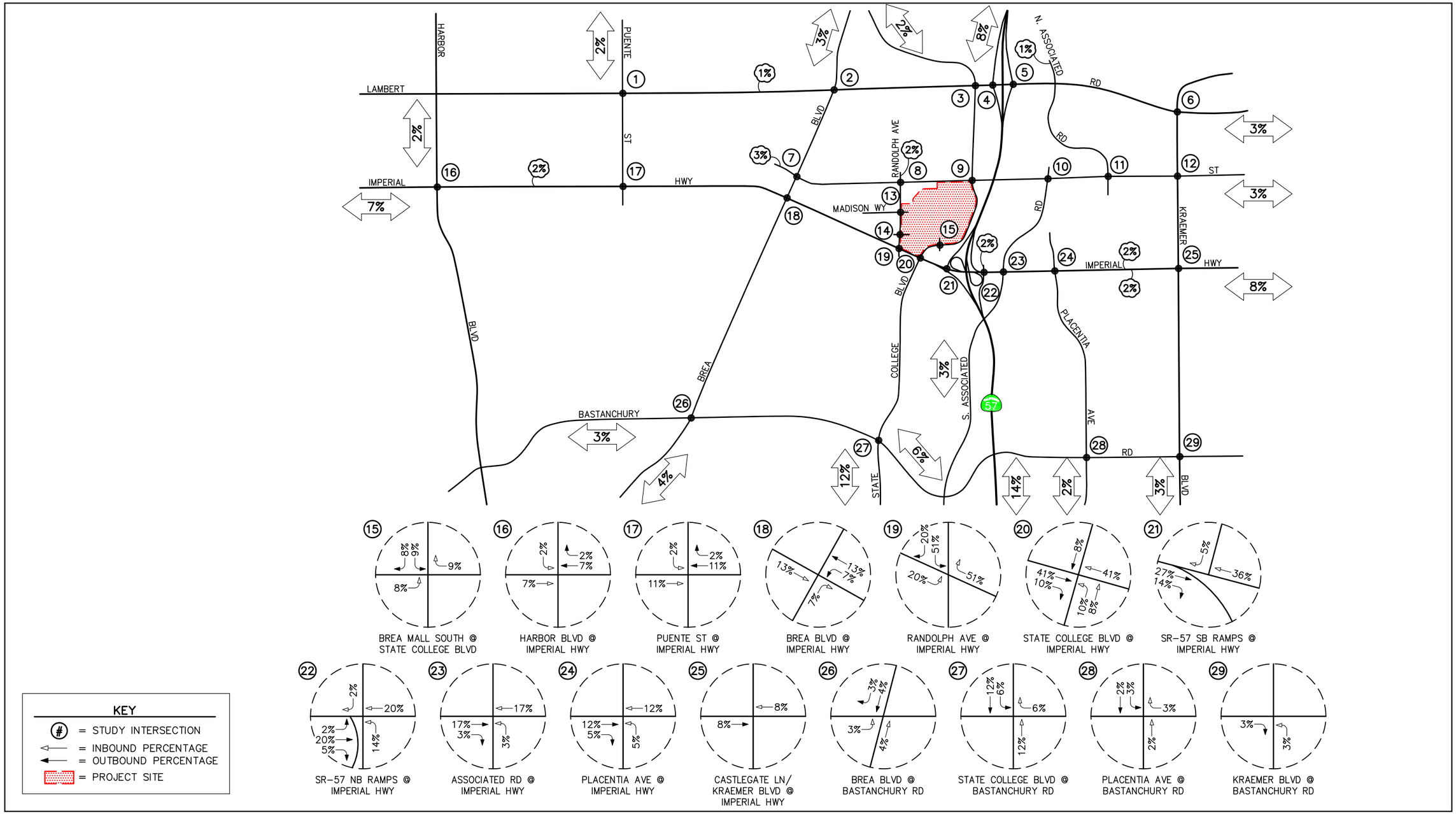
NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

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Figure 5.12-5b - Project Traffic Distribution Patterns - Residential



NOT TO SCALE

Source: Linscott, Law, & Greenspan Engineers, 2019

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ICU – General Plan Consistency

The "Existing Plus Project" traffic conditions have been calculated based upon existing conditions and the estimated project traffic under the ICU methodology for 27 of the 29 intersections.[5] The TIA Appendix C presents the Existing Plus Project ICU/LOS calculations for the 27 key study intersections, as shown in Table 5.12-11, *Existing Plus Project Peak Hour Intersection Capacity Analysis – ICU*. This traffic scenario was prepared to show the potential impacts of a project upon the circulation system as it currently exists. If this scenario has direct impacts, mitigation is needed to mitigate "project-level" impacts to ensure consistency with the 2003 General Plan. As identified in this table, the proposed project would impact one of the 27 key study intersections:

- #20 – State College Boulevard at Imperial Highway (Caltrans: weekend midday peak hour)

[5] Intersections #26 and #27 are within the sole jurisdiction of the City of Fullerton and are evaluated using the HCM criteria.

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Table 5.12-11 Existing Plus Project Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	0.522	A	0.524	A	0.002	No
			PM	0.591	A	0.592	A	0.001	No
			Sat MD	0.403	A	0.405	A	0.002	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	0.685	B	0.687	B	0.002	No
			PM	0.618	B	0.620	B	0.002	No
			Sat MD	0.620	B	0.622	B	0.002	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	0.672	B	0.676	B	0.004	No
			PM	0.647	B	0.652	B	0.005	No
			Sat MD	0.649	B	0.655	B	0.006	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	0.716	C	0.717	C	0.001	No
			PM	0.587	A	0.589	A	0.002	No
			Sat MD	0.697	B	0.699	B	0.002	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	0.783	C	0.784	C	0.001	No
			PM	0.543	A	0.545	A	0.002	No
			Sat MD	0.656	B	0.659	B	0.003	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	0.591	A	0.593	A	0.002	No
			PM	0.498	A	0.500	A	0.002	No
			Sat MD	0.444	A	0.445	A	0.001	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	0.380	A	0.381	A	0.001	No
			PM	0.603	B	0.607	B	0.004	No
			Sat MD	0.435	A	0.435	A	0.000	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	0.338	A	0.343	A	0.005	No
			PM	0.541	A	0.547	A	0.006	No
			Sat MD	0.448	A	0.455	A	0.007	No
9	State College Boulevard at Birch Street	Brea (D)	AM	0.506	A	0.510	A	0.004	No
			PM	0.643	B	0.649	B	0.006	No
			Sat MD	0.605	B	0.609	B	0.004	No

Table 5.12-11 Existing Plus Project Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	0.592	A	0.594	A	0.002	No
			PM	0.592	A	0.593	A	0.001	No
			Sat MD	0.491	A	0.494	A	0.003	No
11	N. Associated Road at Birch Street	Brea (D)	AM	0.520	A	0.521	A	0.001	No
			PM	0.616	B	0.618	B	0.002	No
			Sat MD	0.370	A	0.371	A	0.001	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	0.532	A	0.533	A	0.001	No
			PM	0.605	B	0.608	B	0.003	No
			Sat MD	0.448	A	0.449	A	0.001	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	0.134	A	0.137	A	0.003	No
			PM	0.234	A	0.237	A	0.003	No
			Sat MD	0.279	A	0.285	A	0.006	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	0.132	A	0.183	A	0.051	No
			PM	0.343	A	0.404	A	0.061	No
			Sat MD	0.430	A	0.536	A	0.106	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	0.176	C	0.211	A	0.035	No
			PM	0.423	A	0.468	A	0.045	No
			Sat MD	0.562	A	0.642	B	0.080	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	0.755	C	0.758	C	0.003	No
			PM	0.735	C	0.740	C	0.005	No
			Sat MD	0.651	B	0.654	B	0.003	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	0.548	A	0.556	A	0.008	No
			PM	0.563	A	0.575	A	0.012	No
			Sat MD	0.457	A	0.469	A	0.012	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	0.752	C	0.761	C	0.009	No
			PM	0.738	C	0.751	C	0.013	No
			Sat MD	0.744	C	0.757	C	0.013	No

Table 5.12-11 Existing Plus Project Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	0.402	A	0.420	A	0.018	No
			PM	0.618	B	0.665	B	0.047	No
			Sat MD	0.688	B	0.747	C	0.059	No
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	0.660	B	0.678	B	0.018	No
			PM	0.778	C	0.798	C	0.020	No
			Sat MD	**0.981**	**E**	**1.021**	**F**	0.040	**Yes**
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.550	A	0.564	A	0.014	No
			PM	0.674	B	0.697	B	0.023	No
			Sat MD	0.744	C	0.758	C	0.014	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.605	B	0.611	B	0.006	No
			PM	0.671	B	0.686	B	0.015	No
			Sat MD	0.724	C	0.733	C	0.009	No
23	Associated Road at Imperial Highway	Caltrans	AM	0.673	B	0.680	B	0.007	No
			PM	0.746	C	0.753	C	0.007	No
			Sat MD	0.681	B	0.692	B	0.011	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	0.575	A	0.578	A	0.003	No
			PM	0.668	B	0.670	B	0.002	No
			Sat MD	0.645	B	0.650	B	0.005	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	0.564	A	0.566	A	0.002	No
			PM	0.706	C	0.711	C	0.005	No
			Sat MD	0.602	B	0.606	B	0.004	No
28	Placentia Avenue at Bastanchury Road	Placentia (D)	AM	0.641	B	0.642	B	0.001	No
			PM	0.781	C	0.785	C	0.004	No
			Sat MD	0.591	A	0.595	A	0.004	No

Table 5.12-11 Existing Plus Project Intersection Level of Service – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing		Existing Plus Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
29	Kraemer Boulevard at Bastanchury Road	Placentia (D)	AM	0.589	A	0.591	A	0.002	No
			PM	0.695	B	0.696	B	0.001	No
			Sat MD	0.532	A	0.535	A	0.003	No

Source: LLG 2020. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: ICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
t is noted that the two study intersections within the City of Fullerton jurisdiction (Intersections #26 and #27) were evaluated using the HCM methodology only per their criteria and has been omitted from the ICU tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

Near-Term (2022) Traffic Conditions

TIA Figure 6-5, Year 2022 Weekday AM Peak Hour Cumulative Traffic Volumes; Figure 6-6, Weekday Year 2022 PM Peak Hour and Daily Cumulative Traffic Volumes; and Figure 6-7, Weekend (Saturday) Midday Peak Hour and Daily Cumulative Traffic Volumes, illustrate the year 2022 without-project weekday AM peak hour, weekday PM peak hour, and weekend (Saturday) midday peak hour traffic volumes, respectively, at the 29 key study intersections. TIA Figures 6-6 and 6-7 also present the Year 2022 daily cumulative traffic volumes during a weekday and weekend, respectively. TIA Figure 6-8, Year 2022 Weekday AM Peak Hour Cumulative Traffic Volumes with Project; Figure 6-9, Year 2022 Weekday PM Peak Hour and Daily Cumulative Traffic Volumes with Project; and Figure 6-10, Year 2022 Weekend (Saturday) Midday Peak Hour and Daily Cumulative Traffic Volumes with Project, illustrate the year 2022 with project weekday AM, weekday PM, and weekend (Saturday) midday peak hour traffic volumes, respectively, at the 29 key study intersections evaluated in this report. TIA Figures 6-9 and 6-10 also present the Year 2022 daily cumulative plus project traffic volumes.

HCM – Intersection Delay

Table 5.12-12, *Year 2022 Peak Hour Intersection Capacity Analysis – HCM*, summarizes the peak hour LOS results at the 27 of the 29 intersections[6] for the near-term conditions with and without the project under the HCM methodology. Appendix D of the TIA also presents the near-term HCM/LOS calculations for the 27 key intersections. As shown in Table 5.12-12, traffic associated with the proposed project would cumulatively impact 3 of the 27 key study intersections.

- #18 – Brea Boulevard at Imperial Highway (Caltrans: AM peak hour)
- #19 – Randolph Avenue at Imperial Highway (Caltrans: weekend midday peak hour)
- #20 – State College Boulevard at Imperial Highway (Caltrans: PM peak hour)

[6] Intersections #28 and #29 are within the sole jurisdiction of the City of Placentia and are evaluated using the ICU criteria.

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Table 5.12-12 Year 2022 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	26.8	C	26.9	C	0.1v	No
			PM	28.9	C	29.1	C	0.2	No
			Sat MD	17.9	B	18.2	B	0.3	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	42.0	D	42.2	D	0.2	No
			PM	42.1	D	42.3	D	0.2	No
			Sat MD	40.8	D	40.9	D	0.1	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	39.6	D	39.6	D	0.0	No
			PM	44.7	D	45.6	D	0.9	No
			Sat MD	50.5	D	51.7	D	1.2	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	50.1	D	50.4	D	N/A	No
			PM	28.6	C	30.1	C	N/A	No
			Sat MD	43.4	D	43.9	D	N/A	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	37.7	D	37.8	D	N/A	No
			PM	24.3	C	24.4	C	N/A	No
			Sat MD	29.5	C	29.7	C	N/A	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	34.9	C	34.9	C	0.0	No
			PM	30.9	C	31.0	C	0.1	No
			Sat MD	25.1	C	25.1	C	0.0	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	29.4	C	29.6	C	0.2	No
			PM	36.9	D	37.1	D	0.2	No
			Sat MD	32.6	C	32.8	C	0.2	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	15.5	B	15.9	B	0.4	No
			PM	23.1	C	23.6	C	0.5	No
			Sat MD	21.0	C	21.7	C	0.7	No
9	State College Boulevard at Birch Street	Brea (D)	AM	41.9	D	42.1	D	0.2	No
			PM	39.6	D	40.1	D	0.5	No
			Sat MD	45.2	D	45.3	D	0.1	No

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Table 5.12-12 Year 2022 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	30.9	C	30.9	C	0.0	No
			PM	28.1\	C	28.1	C	0.0	No
			Sat MD	21.4	C	21.4	C	0.0	No
11	N. Associated Road at Birch Street	Brea (D)	AM	28.1	C	28.2	C	0.1	No
			PM	30.4	C	30.6	C	0.2	No
			Sat MD	18.9	B	19.3	B	0.4	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	38.5	D	38.6	D	0.1	No
			PM	50.8	D	51.2	D	0.4	No
			Sat MD	34.1	C	34.2	C	0.1	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	18.1	B	18.8	B	0.7	No
			PM	18.2	B	18.7	B	0.5	No
			Sat MD	18.8	B	19.3	B	0.5	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	8.4	A	17.8	B	7.9	No
			PM	19.0	B	20.9	C	1.9	No
			Sat MD	24.1	C	29.2	C	5.1	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	14.3	B	21.3	C	7.0	No
			PM	27.0	C	31.1	C	4.1	No
			Sat MD	33.5	C	36.6	D	3.1	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	50.6	D	51.2	D	--	No
			PM	57.6	E	57.6	E	--	No
			Sat MD	43.3	D	43.4	D	--	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	21.4	C	21.7	C	N/A	No
			PM	23.2	C	23.9	C	N/A	No
			Sat MD	15.2	B	15.5	B	N/A	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	**56.7**	**E**	**58.9**	**E**	N/A	**Yes[3]**
			PM	45.2	D	46.8	D	N/A	No
			Sat MD	49.3	D	52.5	D	N/A	No

Table 5.12-12 Year 2022 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	14.0	B	16.4	B	N/A	No
			PM	28.8	C	35.1	D	N/A	No
			Sat MD	54.7	D	**73.8**	**E**	N/A	**Yes**
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	40.0	D	48.3	D	N/A	No
			PM	**84.2**	**F**	**93.8**	**F**	N/A	**Yes[3]**
			Sat MD	**173.9**	**F**	**198.4**	**F**	N/A	No
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	17.4	B	17.7	B	N/A	No
			PM	19.3	B	20.9	C	N/A	No
			Sat MD	29.2	C	30.7	C	N/A	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	33.4	C	32.8	C	N/A	No
			PM	32.2	C	33.1	C	N/A	No
			Sat MD	41.9	D	43.3	D	N/A	No
23	Associated Road at Imperial Highway	Caltrans	AM	31.4	C	32.2	C	N/A	No
			PM	47.8	D	48.2	D	N/A	No
			Sat MD	38.2	D	40.3	D	N/A	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	20.8	C	21.0	C	N/A	No
			PM	32.0	C	32.3	C	N/A	No
			Sat MD	26.4	C	26.6	C	N/A	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	29.4	C	29.5	C	N/A	No
			PM	40.3	D	40.9	D	N/A	No
			Sat MD	33.5	C	33.6	C	N/A	No
26	Brea Boulevard at Bastanchury Road	Fullerton (D)	AM	47.4	D	47.7	D	0.3	No
			PM	46.3	D	47.4	D	1.1	No
			Sat MD	38.4	D	38.5	D	0.1	No

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Table 5.12-12 Year 2022 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
27	State College Boulevard at Bastanchury Road	Fullerton (D)	AM	34.5	C	34.7	C	0.2	No
			PM	**55.7**	**E**	**56.2**	**E**	0.5	No
			Sat MD	38.0	D	38.3	D	0.3	No

Source: LLG 2020. HCM LOS calculation worksheets are provided in Appendix D in the TIA, Appendix I of the DEIR.
Notes: HCM: highway capacity manual; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
It is noted that the two study intersections within the City of Placentia jurisdiction (Intersections #28 and #29) were evaluated using the ICU methodology only per their criteria and has been omitted from the HCM tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.
[3] Under existing conditions, this intersection operates at an acceptable LOS. Under cumulative conditions the proposed project would cumulatively contribute to congestion at this intersection.

ICU – General Plan Consistency

Table 5.12-13, *Year 2022 Peak Hour Intersection Capacity Analysis - ICU*, summarizes the peak hour LOS results at 27 of the 29 key study intersections[7] for the near-term conditions with and without the project under the ICU methodology. Appendix C of the TIA (see Appendix I) also presents the near-term ICU/LOS calculations for the 27 key intersections. As identified in Table 5.12-13, the proposed project would impact one of the 27 intersections analyzed:

- #20 – State College Boulevard at Imperial Highway (Caltrans: weekend midday peak hour)

[7] Intersections #26 and #27 are within the sole jurisdiction of the City of Fullerton and are evaluated using the HCM criteria.

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Table 5.12-13 Year 2022 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	0.556	A	0.558	A	0.002	No
			PM	0.627	B	0.627	B	0.000	No
			Sat MD	0.441	A	0.443	A	0.002	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	0.740	C	0.742	C	0.002	No
			PM	0.714	C	0.716	C	0.002	No
			Sat MD	0.695	B	0.697	B	0.002	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	0.730	C	0.734	C	0.004	No
			PM	0.735	C	0.741	C	0.006	No
			Sat MD	0.732	C	0.738	C	0.006	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	0.785	C	0.787	C	0.002	No
			PM	0.672	B	0.675	B	0.003	No
			Sat MD	0.760	C	0.762	C	0.002	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	0.811	D	0.811	D	0.000	No
			PM	0.618	B	0.620	B	0.002	No
			Sat MD	0.721	C	0.724	C	0.003	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	0.609	B	0.610	B	0.001	No
			PM	0.526	A	0.528	A	0.002	No
			Sat MD	0.466	A	0.467	A	0.001	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	0.421	A	0.424	A	0.003	No
			PM	0.642	B	0.646	B	0.004	No
			Sat MD	0.484	A	0.487	A	0.003	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	0.356	A	0.360	A	0.004	No
			PM	0.570	A	0.576	A	0.006	No
			Sat MD	0.481	A	0.487	A	0.006	No
9	State College Boulevard at Birch Street	Brea (D)	AM	0.584	A	0.587	A	0.003	No
			PM	0.727	C	0.733	C	0.006	No
			Sat MD	0.701	C	0.705	C	0.004	No

Table 5.12-13 Year 2022 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	0.619	B	0.621	B	0.002	No
			PM	0.614	B	0.616	B	0.002	No
			Sat MD	0.513	A	0.515	A	0.002	No
11	N. Associated Road at Birch Street	Brea (D)	AM	0.539	A	0.541	A	0.002	No
			PM	0.641	B	0.643	B	0.002	No
			Sat MD	0.388	A	0.389	A	0.001	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	0.548	A	0.548	A	0.000	No
			PM	0.631	B	0.634	B	0.003	No
			Sat MD	0.461	A	0.462	A	0.001	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	0.137	A	0.140	A	0.003	No
			PM	0.239	A	0.243	A	0.004	No
			Sat MD	0.286	A	0.292	A	0.006	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	0.134	A	0.186	A	0.052	No
			PM	0.351	A	0.442	A	0.091	No
			Sat MD	0.467	A	0.502	A	0.035	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	0.216	A	0.251	A	0.035	No
			PM	0.460	A	0.505	A	0.045	No
			Sat MD	0.617	B	0.697	B	0.080	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	0.786	C	0.789	C	0.003	No
			PM	0.825	D	0.830	D	0.005	No
			Sat MD	0.708	C	0.711	C	0.003	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	0.614	B	0.623	B	0.009	No
			PM	0.600	B	0.612	B	0.012	No
			Sat MD	0.495	A	0.507	A	0.012	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	0.817	D	0.822	D	0.005	No
			PM	0.796	C	0.801	D	0.005	No
			Sat MD	0.790	C	0.804	D	0.014	No

Table 5.12-13 Year 2022 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	0.450	A	0.476	A	0.026	No
			PM	0.654	B	0.701	C	0.047	No
			Sat MD	0.731	C	0.790	C	0.059	No
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	0.722	C	0.739	C	0.017	No
			PM	0.839	D	0.859	D	0.020	No
			Sat MD	**1.058**	**F**	**1.098**	**F**	**0.040**	**Yes**
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.620	B	0.633	B	0.013	No
			PM	0.732	C	0.755	C	0.023	No
			Sat MD	0.808	D	0.822	D	0.014	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.653	B	0.663	B	0.010	No
			PM	0.730	C	0.745	C	0.015	No
			Sat MD	0.786	C	0.796	C	0.010	No
23	Associated Road at Imperial Highway	Caltrans (D)	AM	0.700	C	0.707	C	0.007	No
			PM	0.778	C	0.785	C	0.007	No
			Sat MD	0.707	C	0.718	C	0.011	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	0.595	A	0.598	A	0.003	No
			PM	0.693	B	0.696	B	0.003	No
			Sat MD	0.667	B	0.673	B	0.006	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	0.585	A	0.587	A	0.002	No
			PM	0.729	C	0.734	C	0.005	No
			Sat MD	0.623	B	0.628	B	0.005	No
28	Placentia Avenue at Bastanchury Road	Placentia (D)	AM	0.660	B	0.661	B	0.001	No
			PM	0.804	D	0.809	D	0.005	No
			Sat MD	0.608	B	0.612	B	0.004	No

Table 5.12-13 Year 2022 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2022 Without Project		Year 2022 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
29	Kraemer Boulevard at Bastanchury Road	Placentia (D)	AM	0.606	B	0.608	B	0.002	No
			PM	0.715	C	0.716	C	0.001	No
			Sat MD	0.547	A	0.550	A	0.003	No

Source: LLG 2020. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: ICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
t is noted that the two study intersections within the City of Fullerton jurisdiction (Intersections #26 and #27) were evaluated using the HCM methodology only per their criteria and has been omitted from the ICU tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

Forecast Year (2040) Traffic Conditions

TIA Figure 6-11, Year 2040 Weekday AM Peak Hour Cumulative Traffic Volumes; Figure 6-12, Weekday Year 2040 PM Peak Hour and Daily Cumulative Traffic Volumes; and Figure 6-13, Weekend (Saturday) Midday Peak Hour and Daily Cumulative Traffic Volumes, illustrate the year 2040 without-project anticipated weekday AM peak hour, weekday PM peak hour, and weekend (Saturday) midday peak hour traffic volumes, respectively, at the 29 key study intersections. TIA Figures 6-12 and 6-13 also present the anticipated Year 2040 daily cumulative traffic volumes during a weekday and weekend, respectively. TIA Figure 6-14, Year 2040 Weekday AM Peak Hour Cumulative Traffic Volumes with Project, Figure 6-15, Year 2040 Weekday PM Peak Hour and Daily Cumulative Traffic Volumes with Project, and Figure 6-16, Year 2040 Weekend (Saturday) Midday Peak Hour and Daily Cumulative Traffic Volumes with Project, illustrate the anticipated year 2040 with project weekday AM, weekday PM, and weekend (Saturday) midday peak hour traffic volumes, respectively, at the 29 key study intersections evaluated in this report. TIA Figures 6-15 and 6-16 also present the anticipated Year 2040 daily cumulative plus project traffic volumes.

HCM – Intersection Delay

Table 5.12-14, *Year 2040 Peak Hour Intersection Capacity Analysis - HCM*, summarizes the anticipated peak hour LOS results at the 27 of the 29 intersections[8] for the near-term conditions with and without the project under the HCM methodology. Appendix D of the TIA (see Appendix I) presents the long-term HCM/LOS calculations for the 27 intersections. As shown in Table 5.12-14, traffic associated with the proposed project is expected to cumulatively impact six of the 27 key study intersections:

- #16 – Harbor Boulevard at Imperial Highway (Caltrans: AM and PM peak hour)
- #18 – Brea Boulevard at Imperial Highway (Caltrans: AM peak hour)
- #19 – Randolph Avenue at Imperial Highway (Caltrans: weekend midday peak hour)
- #20 – State College Boulevard at Imperial Highway (Caltrans: PM peak hour)
- #22 – SR-57 NB Ramps at Imperial Highway (Caltrans: weekend midday peak hour)
- #23 – Associated Road at Imperial Highway (Caltrans: AM peak hour)

[8] Intersections #28 and #29 are within the sole jurisdiction of the City of Placentia and are evaluated using the ICU criteria.

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Table 5.12-14 Year 2040 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	29.2	C	29.3	C	0.1	No
			PM	27.7	C	27.8	C	0.1	No
			Sat MD	18.0	B	18.3	B	0.3	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	44.8	D	45.0	D	0.2	No
			PM	40.9	D	41.0	D	0.1	No
			Sat MD	39.3	D	39.4	D	0.1	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	39.7	D	40.0	D	0.3	No
			PM	42.7	D	43.2	D	0.5	No
			Sat MD	49.7	D	49.8	D	0.1	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	31.1	C	31.2	C	N/A	No
			PM	23.6	C	23.8	C	N/A	No
			Sat MD	36.8	D	37.1	D	N/A	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	31.0	C	31.0	C	N/A	No
			PM	14.7	B	14.7	B	N/A	No
			Sat MD	22.1	C	22.2	C	N/A	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	36.2	D	36.3	D	0.1	No
			PM	40.8	D	40.8	D	0.0	No
			Sat MD	27.7	C	27.8	C	0.1	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	27.6	C	27.7	C	0.1	No
			PM	36.5	D	36.6	D	0.1	No
			Sat MD	30.0	C	30.9	C	0.9	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	14.3	B	14.7	B	0.4	No
			PM	22.0	C	22.3	C	0.3	No
			Sat MD	20.2	C	20.6	C	0.4	No
9	State College Boulevard at Birch Street	Brea (D)	AM	44.9	D	45.0	D	0.1	No
			PM	39.7	D	40.3	D	0.6	No
			Sat MD	43.8	D	44.0	D	0.2	No

Table 5.12-14 Year 2040 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	30.7	C	30.8	C	0.1	No
			PM	30.1	C	30.2	C	0.1	No
			Sat MD	22.8	C	22.8	C	0.0	No
11	N. Associated Road at Birch Street	Brea (D)	AM	27.0	C	27.0	C	0.0	No
			PM	25.5	C	25.6	C	0.1	No
			Sat MD	17.7	B	17.7	B	0.0	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	41.2	D	41.2	D	0.0	No
			PM	**62.5**	**E**	**62.8**	**E**	0.3	No
			Sat MD	35.3	D	35.4	D	0.1	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	12.9	B	13.0	B	0.1	No
			PM	16.8	B	17.2	B	0.4	No
			Sat MD	17.7	B	18.2	B	0.5	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	7.0	A	14.1	B	7.1	No
			PM	18.2	B	19.8	B	1.6	No
			Sat MD	23.4	C	27.3	C	3.9	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	12.3	B	16.7	B	4.4	No
			PM	26.2	C	30.7	C	4.5	No
			Sat MD	32.7	C	35.3	D	2.6	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	**56.6**	**E**	**57.4**	**E**	--	**Yes[3]**
			PM	**59.0**	**E**	**60.1**	**E**	--	**Yes[3]**
			Sat MD	44.1	D	44.3	D	--	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	24.9	C	25.2	C	N/A	No
			PM	19.3	B	20.2	C	N/A	No
			Sat MD	14.6	B	14.9	B	N/A	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	49.2	D	**56.6**	**E**	N/A	**Yes**
			PM	48.3	D	50.3	D	N/A	No
			Sat MD	46.4	D	48.5	D	N/A	No

Table 5.12-14 Year 2040 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	13.1	B	15.2	B	N/A	No
			PM	27.0	C	36.5	D	N/A	No
			Sat MD	48.3	D	**63.9**	**E**	N/A	**Yes**
20	State College Boulevard at Imperial Highway[1]	CMP (E)	AM	42.1	D	45.5	D	N/A	No
			PM	**65.7**	**E**	**83.5**	**F**	N/A	**Yes[3]**
			Sat MD	**144.6**	**F**	**164.8**	**F**	N/A	No
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	18.4	B	18.7	D	N/A	No
			PM	19.2	B	20.6	C	N/A	No
			Sat MD	28.2	C	29.6	C	N/A	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	31.9	C	32.3	C	N/A	No
			PM	33.3.	C	33.9	C	N/A	No
			Sat MD	**73.3**	**E**	**73.6**	**E**	N/A	**Yes[3]**
23	Associated Road at Imperial Highway	Caltrans (D)	AM	**60.1**	**E**	**62.1**	**E**	N/A	**Yes[3]**
			PM	44.9	D	45.3	D	N/A	No
			Sat MD	36.9	D	38.2	D	N/A	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	22.3	C	22.5	C	N/A	No
			PM	30.4	C	30.7	C	N/A	No
			Sat MD	25.9	C	26.4	C	N/A	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	35.1	D	35.3	D	N/A	No
			PM	48.3	D	48.9	D	N/A	No
			Sat MD	33.0	C	33.1	C	N/A	No
26	Brea Boulevard at Bastanchury Road	Fullerton (D)	AM	44.2	D	44.3	D	0.1	No
			PM	43.6	D	44.2	D	0.6	No
			Sat MD	38.0	D	38.1	D	0.1	No

Table 5.12-14 Year 2040 Peak Hour Intersection Capacity Analysis – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase HCM s/v	Significant Impact
				HCM s/v	LOS	HCM s/v	LOS		
27	State College Boulevard at Bastanchury Road	Fullerton (D)	AM	37.0	D	37.3	D	0.3	No
			PM	**61.0**	**E**	**61.3**	**E**	0.3	No
			Sat MD	40.5	D	40.6	D	0.1	No

Source: LLG 2020. HCM LOS calculation worksheets are provided in Appendix D in the TIA, Appendix I of the DEIR.
Notes: HCM: highway capacity manual; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
It is noted that the two study intersections within the City of Placentia jurisdiction (Intersections #28 and #29) were evaluated using the ICU methodology only per their criteria and has been omitted from the HCM tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.
[3] Under existing conditions, this intersection operates at an acceptable LOS. Under cumulative conditions the proposed project would cumulatively contribute to congestion at this intersection.

ICU – General Plan Consistency

Table 5.12-15, *Year 2040 Peak Hour Intersection Capacity Analysis – ICU*, shows the potential traffic impacts for 27 of the 29 intersections[9] associated with long-term growth within the study area. TIA Appendix C (see Appendix I) presents the long-term ICU/LOS calculations for the 27 intersections. As shown in Table 5.12-15, the proposed project would result in cumulative impacts to one intersection:

- #20 – State College Boulevard at Imperial Highway (Caltrans: weekend midday peak hour)

[9] Intersections #26 and #27 are within the sole jurisdiction of the City of Fullerton and are evaluated using the HCM criteria.

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Table 5.12-15 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
1	Puente Street at Lambert Road	Brea (D)	AM	0.649	B	0.650	B	0.001	No
			PM	0.682	B	0.683	B	0.001	No
			Sat MD	0.477	A	0.479	A	0.002	No
2	Brea Boulevard at Lambert Road	Brea (D)	AM	0.811	D	0.814	D	0.003	No
			PM	0.765	C	0.766	C	0.001	No
			Sat MD	0.726	C	0.729	C	0.003	No
3	State College Boulevard at Lambert Road	Brea (D)	AM	0.766	C	0.770	C	0.004	No
			PM	0.773	C	0.779	C	0.006	No
			Sat MD	0.769	C	0.775	C	0.006	No
4	SR-57 SB Ramps at Lambert Road	Caltrans (D)	AM	0.805	D	0.806	D	0.001	No
			PM	0.661	B	0.664	B	0.003	No
			Sat MD	0.776	C	0.778	C	0.002	No
5	SR-57 NB Ramps at Lambert Road	Caltrans (D)	AM	0.880	D	0.881	D	0.001	No
			PM	0.569	A	0.569	A	0.000	No
			Sat MD	0.737	C	0.739	C	0.002	No
6	Santa Fe Road/Kraemer Boulevard at Lambert Road	Brea (D)	AM	0.711	C	0.712	C	0.001	No
			PM	0.643	B	0.645	B	0.002	No
			Sat MD	0.576	A	0.577	A	0.001	No
7	Brea Boulevard at Birch Street	Brea (D)	AM	0.485	A	0.488	A	0.003	No
			PM	0.671	B	0.675	B	0.004	No
			Sat MD	0.508	A	0.511	A	0.003	No
8	Randolph Avenue at Birch Street	Brea (D)	AM	0.437	A	0.441	A	0.004	No
			PM	0.578	A	0.584	A	0.006	No
			Sat MD	0.508	A	0.512	A	0.004	No
9	State College Boulevard at Birch Street	Brea (D)	AM	0.612	B	0.616	B	0.004	No
			PM	0.769	C	0.775	C	0.006	No
			Sat MD	0.737	C	0.741	C	0.004	No

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Table 5.12-15 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
10	S. Associated Road at Birch Street	Brea (D)	AM	0.696	B	0.698	B	0.002	No
			PM	0.648	B	0.649	B	0.001	No
			Sat MD	0.539	A	0.541	A	0.002	No
11	N. Associated Road at Birch Street	Brea (D)	AM	0.575	A	0.577	A	0.002	No
			PM	0.674	B	0.676	B	0.002	No
			Sat MD	0.405	A	0.407	A	0.002	No
12	Kraemer Boulevard at Birch Street	Brea (D)	AM	0.750	C	0.750	C	0.000	No
			PM	0.719	C	0.722	C	0.003	No
			Sat MD	0.492	A	0.495	A	0.003	No
13	Randolph Avenue at Madison Way	Brea (D)	AM	0.192	A	0.195	A	0.003	No
			PM	0.249	A	0.252	A	0.003	No
			Sat MD	0.299	A	0.304	A	0.005	No
14	Randolph Avenue at Brea Mall	Brea (D)	AM	0.144	A	0.196	A	0.052	No
			PM	0.367	A	0.429	A	0.062	No
			Sat MD	0.463	A	0.524	A	0.061	No
15	Brea Mall South at State College Boulevard	Brea (D)	AM	0.225	A	0.259	A	0.034	No
			PM	0.480	A	0.525	A	0.045	No
			Sat MD	0.645	B	0.725	C	0.080	No
16	Harbor Boulevard at Imperial Highway[1, 2]	Caltrans (D)	AM	**0.901**	**E**	**0.904**	**E**	0.003	No
			PM	0.874	D	0.879	D	0.005	No
			Sat MD	0.751	C	0.754	C	0.003	No
17	Puente Street at Imperial Highway	Caltrans (D)	AM	0.707	C	0.715	C	0.008	No
			PM	0.646	B	0.658	B	0.012	No
			Sat MD	0.521	A	0.532	A	0.011	No
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	0.860	D	0.864	D	0.004	No
			PM	0.846	D	0.851	D	0.005	No
			Sat MD	0.836	D	0.850	D	0.014	No

Table 5.12-15 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	0.491	A	0.503	A	0.012	No
			PM	0.695	B	0.742	C	0.047	No
			Sat MD	0.804	D	0.863	D	0.059	No
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	0.780	C	0.797	C	0.017	No
			PM	0.872	D	0.893	D	0.021	No
			Sat MD	**1.103**	**F**	**1.143**	**F**	0.040	**Yes**
21	SR-57 SB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.685	B	0.698	B	0.013	No
			PM	0.764	C	0.787	C	0.023	No
			Sat MD	0.842	D	0.856	D	0.014	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	0.710	C	0.719	C	0.009	No
			PM	0.788	C	0.803	D	0.015	No
			Sat MD	0.848	D	0.858	D	0.010	No
23	Associated Road at Imperial Highway	Caltrans	AM	**0.937**	**E**	**0.944**	**E**	0.007	No
			PM	0.817	D	0.824	D	0.007	No
			Sat MD	0.752	C	0.763	C	0.011	No
24	Castlegate Lane/Placentia Avenue at Imperial Highway	Caltrans (D)	AM	0.704	C	0.707	C	0.003	No
			PM	0.731	C	0.734	C	0.003	No
			Sat MD	0.706	C	0.711	C	0.005	No
25	Kraemer Boulevard at Imperial Highway	Caltrans (D)	AM	0.747	C	0.750	C	0.003	No
			PM	0.846	D	0.850	D	0.004	No
			Sat MD	0.681	B	0.684	B	0.003	No
28	Placentia Avenue at Bastanchury Road	Placentia (D)	AM	0.732	C	0.733	C	0.001	No
			PM	0.863	D	0.867	D	0.004	No
			Sat MD	0.660	B	0.662	B	0.002	No

Table 5.12-15 Year 2040 Peak Hour Intersection Capacity Analysis – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Year 2040 Without Project		Year 2040 With Project		Increase	Significant Impact
				ICU	LOS	ICU	LOS		
29	Kraemer Boulevard at Bastanchury Road	Placentia (D)	AM	0.702	C	0.704	C	0.002	No
			PM	0.786	C	0.787	C	0.001	No
			Sat MD	0.588	A	0.591	A	0.003	No

Source: LLG 2020. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: ICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
t is noted that the two study intersections within the City of Fullerton jurisdiction (Intersections #26 and #27) were evaluated using the HCM methodology only per their criteria and has been omitted from the ICU tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] For intersections located along a CMP network, LOS E is considered acceptable within the City of La Habra. However, LOS D is considered to be the acceptable level of service at all La Habra locations in order to be conservative.

CMP Analysis

Four intersections in the project study area are in the OCTA's CMP Highway System:

- #16 – Harbor Boulevard at Imperial Highway
- #20 – State College Boulevard at Imperial Highway
- #21 – SR-57 SB Ramps at Imperial Highway
- #22 – SR-N7 SB Ramps at Imperial Highway

The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. The proposed project is forecast to generate approximately 4,140 weekday net daily trip-ends and 4,031 net Saturday daily trip-ends and thus meets the criteria requiring a CMP TIA.

The OCTA CMP defines LOS E as the acceptable limit for roadway segments. OCTA requires an analysis for projects that have the potential to generate 3 percent of daily LOS "E" capacity. Table 5.12-16, *Project Percentage Radius of Influence CMP Analysis*, summarizes the percent contribution of project-related traffic to the total roadway capacity for seven roadway segments in the vicinity of the proposed project along Imperial Highway for weekday daily and weekend (Saturday) daily volumes. The purpose of the 3 percent test is to identify study intersections for inclusion in the CMP assessment. As shown in Table 5.12-16, the project would contribute 3 percent or more to traffic volumes along the segment of Imperial Highway east of State College Boulevard (Segment 4), thus requiring a CMP intersection analysis.

Table 5.12-17, *Weekday Peak Hour Intersection Congestion Management Plan Capacity Analysis*, present the Existing Plus Project, Year 2022 Plus Project, and Year 2040 Plus Project level of service results based on the CMP thresholds, respectively. As stated previously, a project causes a significant impact if it causes the CMP facility to operate worse than a LOS E, or the project increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project. As identified in this table, the proposed project would result in cumulative impacts to one of the four CMP intersections:

- #20 – State College Boulevard at Imperial Highway (Caltrans: weekend midday peak hour)

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Table 5.12-16 Project Percentage Radius of Influence CMP Analysis

#	Imperial Highway Roadway Segment	CMP LOS "E" Capacity	Weekday			Weekend		
			Project ADT	Percentage	Radius of Influence?	Project ADT	Percentage	Radius of Influence?
1	West of Puente Street	56,300	488	1%	No	475	1%	No
2	East of Berry Street	56,300	698	1%	No	683	1%	No
3	East of Brea Boulevard	56,300	1,147	2%	No	1,124	2%	No
4	East of State College Boulevard	56,300	1,730	3%	**Yes**	1,685	3%	No
5	East of SR-57 NB Ramps	56,300	828	1%	No	807	1%	No
6	East of Associated Road	56,300	672	1%	No	654	1%	No
7	East of Castlegate Lane / Placentia Avenue	56,300	401	1%	No	389	1%	No

Source: LLG 2020.
Notes: CMP: Congestion Management Plan; LOS: Level of Service; ADT: average daily trips

Table 5.12-17 Weekday Peak Hour Intersection Congestion Management Plan Capacity Analysis

#	Key Intersection)	Time Period	Without Project		With Project		Increase	Significant Impact
			ICU	LOS	ICU	LOS		
Existing								
16	Harbor Boulevard at Imperial Highway[1]	AM	0.755	C	0.758	C	0.003	No
		PM	0.735	C	0.740	C	0.005	No
		Sat MD	0.651	B	0.654	B	0.003	No
20	State College Boulevard at Imperial Highway[1]	AM	0.660	B	0.678	B	0.018	No
		PM	0.778	C	0.798	C	0.020	No
		Sat MD	**0.981**	**E**	**1.021**	**F**	**0.040**	**Yes**
21	SR-57 SB Ramps at Imperial Highway[1]	AM	0.550	A	0.564	A	0.014	No
		PM	0.674	B	0.697	B	0.023	No
		Sat MD	0.744	C	0.758	C	0.014	No

Table 5.12-17 Weekday Peak Hour Intersection Congestion Management Plan Capacity Analysis

#	Key Intersection)	Time Period	Without Project		With Project		Increase	Significant Impact
			ICU	LOS	ICU	LOS		
22	SR-57 NB Ramps at Imperial Highway[1]	AM	0.605	B	0.611	B	0.006	No
		PM	0.671	B	0.686	B	0.015	No
		Sat MD	0.724	C	0.733	C	0.009	No
Year 2022								
16	Harbor Boulevard at Imperial Highway[1]	AM	0.786	C	0.789	C	0.003	No
		PM	0.825	D	0.830	D	0.005	No
		Sat MD	0.708	C	0.711	C	0.003	No
20	State College Boulevard at Imperial Highway[1]	AM	0.722	C	0.739	C	0.017	No
		PM	0.839	D	0.859	D	0.020	No
		Sat MD	**1.058**	**F**	**1.098**	**F**	0.040	No
21	SR-57 SB Ramps at Imperial Highway[1]	AM	0.620	B	0.633	B	0.013	No
		PM	0.732	C	0.755	C	0.023	No
		Sat MD	0.808	D	0.822	D	0.014	No
22	SR-57 NB Ramps at Imperial Highway[1]	AM	0.653	B	0.663	B	0.010	No
		PM	0.730	C	0.745	C	0.015	No
		Sat MD	0.786	C	0.796	C	0.010	No
Year 2040								
16	Harbor Boulevard at Imperial Highway[1]	AM	0.901	E	0.904	E	0.003	No
		PM	0.874	D	0.879	D	0.005	No
		Sat MD	0.751	C	0.754	C	0.003	No
20	State College Boulevard at Imperial Highway[1]	AM	0.780	C	0.797	C	0.017	No
		PM	0.872	D	0.893	D	0.021	No
		Sat MD	**1.103**	**F**	**1.143**	**F**	0.040	No
21	SR-57 SB Ramps at Imperial Highway[1]	AM	0.685	B	0.698	B	0.013	No
		PM	0.764	C	0.787	C	0.023	No
		Sat MD	0.842	D	0.856	D	0.014	No

Table 5.12-17 Weekday Peak Hour Intersection Congestion Management Plan Capacity Analysis

#	Key Intersection)	Time Period	Without Project		With Project		Increase	Significant Impact
			ICU	LOS	ICU	LOS		
22	SR-57 NB Ramps at Imperial Highway[1]	AM	0.710	C	0.719	C	0.009	No
		PM	0.788	C	0.803	D	0.015	No
		Sat MD	0.848	D	0.858	D	0.010	No

Source: LLG 2020. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: ICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan.
t is noted that the two study intersections within the City of Fullerton jurisdiction (Intersections #26 and #27) were evaluated using the HCM methodology only per their criteria and has been omitted from the ICU tables.
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections. a project causes a significant impact if it causes the CMP facility to operate worse than a LOS E, or the project increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project.

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Caltrans Freeway Analysis

A basic freeway segment analysis was conducted for six freeway segments in the vicinity of the proposed project. As identified in Table 5.12-18, *Project Contribution to SR-57 Peak Hour Traffic Volumes*, the proposed project does not generate 50 to 100 peak hour trips assigned to a state highway facility, and these segments operate at an acceptable LOS D or better during the AM and PM peak hours under existing traffic conditions (see Table 5.12-8). Therefore, no additional analysis is needed for the six freeway segments is warranted and impacts are less than significant.

Table 5.12-18 Project Contribution to SR-57 Peak Hour Traffic Volumes

#	SR-57 Segments	Time Period	Project Peak Hour Trips
1	SR-57 Northbound – South of Imperial Highway	AM	26
		PM	44
		Sat Midday	27
2	SR-57 Northbound – South of Lambert Road	AM	8
		PM	9
		Sat Midday	16
3	SR-57 Northbound – North of Lambert Road	AM	12
		PM	13
		Sat Midday	24
4	SR-57 Southbound – North of Lambert Road	AM	14
		PM	22
		Sat Midday	15
5	SR-57 Southbound – South of Lambert Road	AM	9
		PM	16
		Sat Midday	10
6	SR-57 Southbound – South of Imperial Highway	AM	22
		PM	22
		Sat Midday	42

Source: LLG 2020. The Basic Freeway Segment Analysis calculation worksheets for the six freeway segments are provided in Appendix H in the TIA, Appendix I of the DEIR.

Traffic Summary

HCM – Intersection Delay

As described above under the Existing Plus Project, Near-Team 2022, and Forecast Year 2040 traffic scenarios as shown in Tables 5.12-10, 5.12-12, and 5.12-14, respectively, the proposed project would impact six intersections under the HCM methodology, all of which are in Caltrans jurisdiction:

- #16 – Harbor Boulevard at Imperial Highway (Year 2040: AM and PM peak hour)
- #18 – Brea Boulevard at Imperial Highway (Year 2022 and Year 2040 AM peak hour)

- #19 – Randolph Avenue at Imperial Highway (Existing Plus Project, Year 2022, and Year 2040 weekend midday peak hour)
- #20 – State College Boulevard at Imperial Highway (Year 2022 and Year 2040 PM peak hour)
- #22 – SR-57 NB Ramps at Imperial Highway (Year 2040 weekend midday peak hour)
- #23 – Associated Road at Imperial Highway (Year 2040 AM peak hour)

ICU – General Plan Consistency

As described above under the Existing Plus Project, Near-Team 2022, and Forecast Year 2040 traffic scenarios as shown in Tables 5.12-11, 5.12-13, and 5.12-15, respectively, the proposed project would impact one Caltrans intersection under the CMP and ICU methodology:

- #20 – State College Boulevard at Imperial Highway (Existing Plus Project, Year 2022, and Year 2040 weekend midday peak hour; ; CMP impacts during the weekday midday peak hour)

Pedestrian, Bicycle, and Transit Access

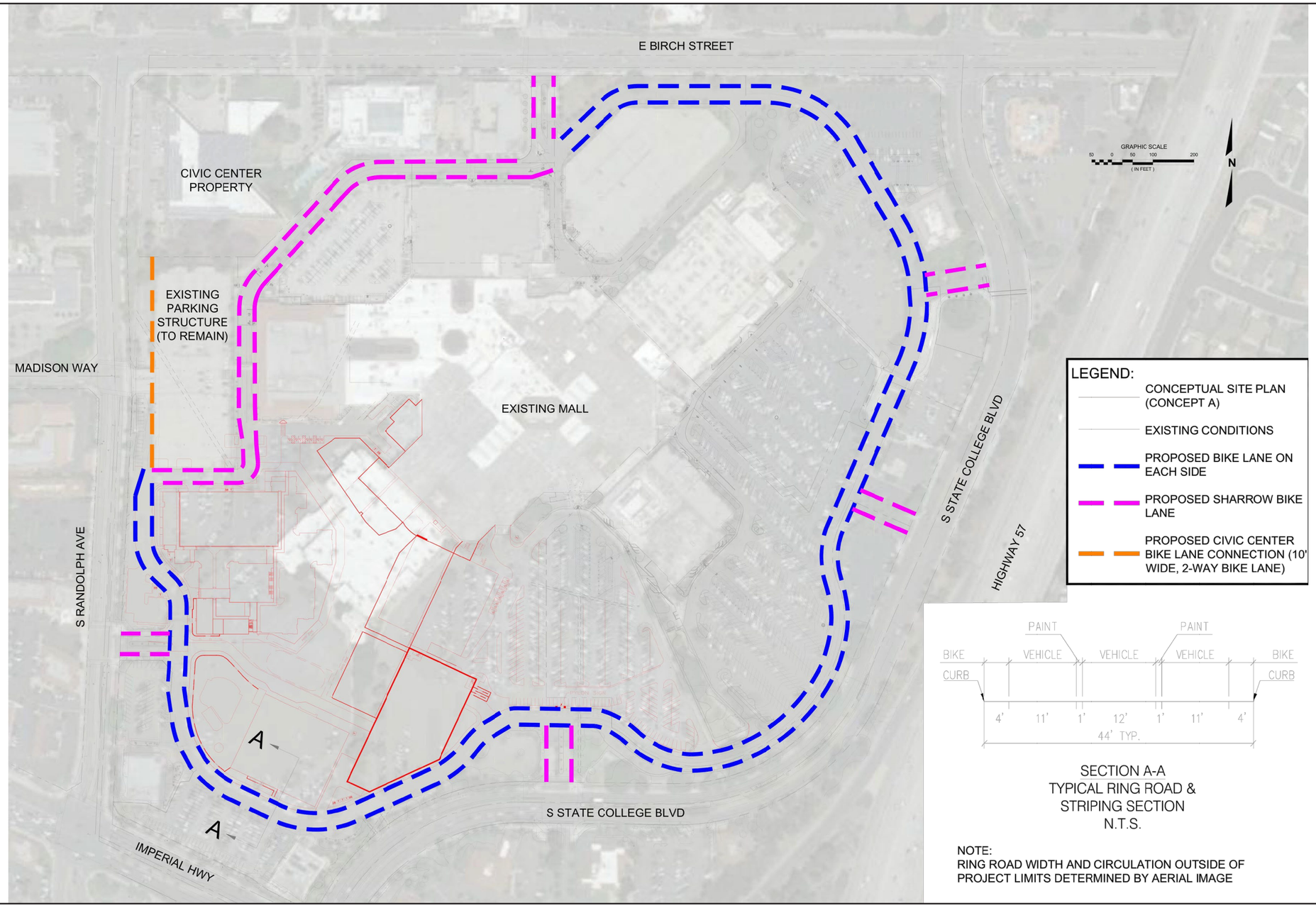
The project area has access to public transit and other forms of alternative transportation (pedestrian and bicycle networks). The proposed project would introduce residential uses onsite and improve pedestrian and bicycle connectivity in the City. The General Plan identifies future Class II bike lanes along Birch Street and State College Boulevard adjacent to the Brea Mall. Figure 5.12-6, *Conceptual Bikeway Plan*, illustrates that, to provide connectivity to the Class II bike lanes on Birch Street and State College Boulevard, the project proposes Class II bike lanes and/or sharrow bike lanes on the "ring road" and the signalized entries of the Brea Mall.

The Brea Mall is surrounded by other commercial and public facilities. Sidewalks are generally provided throughout the City along with crosswalks at most major intersections. State College Boulevard, Birch Street, Randolph Avenue, and Imperial Highway provide pedestrians connectivity via the existing sidewalks linking the project area to the surrounding commercial area. Pedestrian circulation would be provided via the existing sidewalk system and internal pedestrian pathways. The proposed project would improve walkability of the Brea Mall through existing and new pedestrian connections to the onsite and surrounding commercial and public facilities.

Additionally, bus service is provided in the project area (see Figure 5.12-3). Five OCTA bus routes operate in the vicinity of the project area on Birch Street and State College Boulevard (Route 57, Route 129, Route 143, Route 153, and Route 213). Bus stops are provided on Birch Street and State College Boulevard (see Figure 5.12-3). Additionally, the Brea Mall has an onsite transit hub that facilitates transit use in Orange County. The proposed project would not conflict with policies, plans, or programs regarding transit, bicycle, or pedestrian facilities.

Level of Significance before Mitigation: The project would have a potentially significant impact on intersections in the study area, and Impact 5.12-1 would be potentially significant.

Figure 5.12-6 - Conceptual Bikeway Plan
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0 270
Scale (Feet)

Source: Linscott, Law, & Greenspan Engineers, 2019

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Impact 5.12-2: The project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). [Threshold T-2]

Vehicle Miles Traveled

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed after SB 743. It eliminates auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts:

> Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) … [regarding roadway capacity], a project's effect on automobile delay shall not constitute a significant environmental impact.

The City of Brea has an opt-in period until July 1, 2020, to adopt the guidelines and new VMT-based criteria. Currently the City of Brea continues to use its established LOS criteria. Therefore, this analysis relies on currently adopted LOS methodologies and criteria to evaluate transportation impacts. Table 5.12-19, *Brea Mall Mixed Use Project VMT*, shows the VMT generated by the project, as estimated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2).

Table 5.12-19 Brea Mall Mixed Use Project VMT

	Daily VMT	Other VMT[1]	Residential Commute VMT[2]	Employee Commute VMT[2]	Residential Average "One-Way" Commute Trip Length[3]	Employee Average "One-Way" Commute Trip Length[4]
Existing Brea Mall	291,270	207,885	NA	83,385	NA	45.5
Proposed Brea Mall	331,466	233,836	5,614	92,016	9.9	35.2
Net Change (Proposed Project)	40,196	25,951	5,614	8,632	NA	-10.2

Source: CalEEMod Version 2016.3.2 (see Appendix B).
1 Other VMT includes customer trips to the mall (customer to commercial), vendor trips to the mall (other to commercial), residential home to school trips, and home to other trips.
2 Based on the CalEEMod "Percentage of Trips" and "Trip Lengths" in CalEEMod Version 2016.3.2 for Orange County.
3 Based on 565 residents associated with the proposed project.
4 Based on 1,834 existing employees and 2,047 project employees.

While the Brea Mall Transit Center is not considered a transit priority area (TPA)[10], the proposed project would introduce high-density residential near existing employment centers and would improve the City's jobs-housing balance (see Section 5.9, *Population and Housing*). Additionally, the proposed project would improve bike lanes and connectivity from the Brea Mall and the residential areas to the City's civic center and the adjacent commercial and mixed-used properties on Birch Street. As shown in Table 5.12-19, the project would result in an increase in daily VMT but a 22 percent decrease in employee VMT trip lengths.

[10] As described in Section 5.12.1.2, under Alternative Modes of Transportation, OCTA does not operate buses with 15 minute headways in the commuter peak hours at the Brea Transit Center.

The project would not conflict or be inconsistent with the City of Brea traffic analysis methodology.

Level of Significance before Mitigation: The project would not conflict with CEQA Guidelines section 15064.3. No impact would occur under Impact 5.12-2.

Impact 5.12-3: Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. However, based on the level of congestion and collision history at State College and Imperial Highway, vehicles changing lanes to access the freeway create safety hazards and the project would cumulatively contribute to safety hazards. [Threshold T-3 and T-4]

Roadway Hazards

A site access and internal circulation evaluation was conducted to determine if there were potential conflicts associated with site access, including potential vehicle pedestrian conflicts.

Site Access

The Brea Mall can be accessed from three of the four surrounding streets bordering the subject property—State College Boulevard, Randolph Avenue, and Birch Street. No vehicular access is provided from Imperial Highway. As shown in Impact 5.12-1, the intersections of Randolph Avenue at Madison Way, Randolph Avenue at Brea Mall, and Brea Mall South at State College Boulevard are forecast to operate at LOS D or better during the weekday AM, weekday PM, and weekend (Saturday) midday peak hours in all traffic conditions. Additionally, there is sufficient sight distance along the drive aisles, and buildings would not obstruct turning movements.

Project Driveway Synchro Queuing Assessment

Per the direction of City on Brea and Caltrans a focused Synchro was conducted for the project driveways closest to Imperial Highway, along State College Boulevard and Randolph Avenue, to assess if the stacking project entries have sufficient number and length of lanes to accommodate the anticipated traffic demand as to not back traffic up onto Imperial Highway. Project vehicles exiting the mall have the potential to "back up" from the project driveway onto Imperial Highway and freeway on-ramp from the southbound dual lefts. The queuing evaluation was conducted for "Existing Plus Project" and "Year 2022 Plus Project" traffic conditions. The TIA Appendix F (see Appendix I) presents the Synchro queuing worksheets for the project driveways.

Existing Plus Project Queuing Analysis

Table 15.12-20, *Existing Driveway Queuing Analysis*, identifies the minimum required stacking/storage lengths for the key study locations for Existing and Existing Plus Project Traffic conditions. The table shows that the following:

- The southbound left-turn movement at State College Boulevard at Imperial Highway has queues that exceed its capacity, resulting the blockage of through lane traffic.

- The southbound left-turn lanes are underutilized due to the presence of a single SR-57 southbound on-ramp from Imperial Highway to the east of the intersection.

Year 2022 Queuing Analysis

Table 5.12-21, *Year 2022 Driveway Queuing Analysis,* identifies the minimum required stacking/storage lengths for the key study locations for Year 2022 and Year 2022 Plus Project Traffic conditions. The table shows that the following:

- The southbound left-turn movement at State College Boulevard at Imperial Highway has queues that exceed its capacity.

- The southbound left-turn lanes are underutilized due to the presence of a single SR-57 southbound on-ramp from Imperial Highway to the east of the intersection.

The queues related to the inbound movement at the project driveways along Randolph Avenue and Brea Mall South at State College Boulevard are not anticipated to queue back to Imperial Highway.

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Table 5.12-20 Existing Driveway Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Existing						Existing Plus Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour		AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
	Randolph Avenue at Brea Mall													
14	NB-T/RT	345	60	Yes	60	Yes	62	Yes	60	Yes	60	Yes	66	Yes
	SB-LT	115	60	Yes	60	Yes	60	Yes	60	Yes	60	Yes	60	Yes
	Brea Mall South at State College Boulevard													
15	EB-LT[2, 3]	805	97	Yes	373	Yes	449	Yes	188	Yes	462	Yes	535	Yes
	WB-T/RT	1,115	152	Yes	366	Yes	354	Yes	83	Yes	197	Yes	347	Yes
	State College Boulevard at Imperial Highway													
20	SB-LT[4]	580	60	Yes	**676**	**No**	**1,246**	**No**	148	Yes	**786**	**No**	**1,524**	**No**

Source: LLG 2020. Queuing worksheets are provided in Appendix F in the TIA, Appendix I of the DEIR.
Bold: Inadequate Storage Provided
Notes:
NB: northbound; SB: southbound, WB: westbound; EB: eastbound; T: through; RT: right-turn; LT: left turn
[1] Maximum Queue/ Minimum Storage Required.
[2] The HCM methodology is reporting values that are inconsistent with existing observations. Therefore, at this location *Sim Traffic 10.0* methodology has been utilized. The 95th percentile vehicle queue value corresponds to a condition that is generally taken as the maximum queue.
[3] The eastbound dual left-turn pocket consists of approximately one lane of 240 feet and the other of 265 feet; however, an additional 300 feet of storage from the through lane can accommodate the remaining vehicles before reaching Imperial Highway
[4] The southbound dual left-turn pocket consists of approximately one lane of 310 feet and the other of 270 feet.

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Table 5.12-21 Year 2022 Driveway Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Year 2022 Without Project						Year 2022 With Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour		AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
	Randolph Avenue at Brea Mall													
14	NB-T/RT	345	60	Yes	138	Yes	126	Yes	60	Yes	60	Yes	135	Yes
	SB-LT	115	60	Yes	60	Yes	60	Yes	60	Yes	60	Yes	60	Yes
	Brea Mall South at State College Boulevard													
15	EB-LT[2,3]	805	94	Yes	353	Yes	498	Yes	163	Yes	421	Yes	557	Yes
	WB-T/RT	1,115	164	Yes	281	Yes	555	Yes	156	Yes	306	Yes	570	Yes
	State College Boulevard at Imperial Highway													
20	SB-LT[4]	580	250	Yes	**918**	**No**	**1,582**	**No**	328	Yes	**1,068**	**No**	**1,876**	**No**

Source: LLG 2020. Queuing worksheets are provided in Appendix F in the TIA, Appendix I of the DEIR.
Bold: Inadequate Storage Provided
Notes:
NB: northbound; SB: southbound, WB: westbound; EB: eastbound; T: through; RT: right-turn; LT: left turn
1 Maximum Queue/ Minimum Storage Required.
2 The HCM methodology is reporting values that are inconsistent with existing observations. Therefore, at this location *Sim Traffic 10.0* methodology has been utilized. The 95th percentile vehicle queue value corresponds to a condition that is generally taken as the maximum queue.
3 The eastbound dual left-turn pocket consists of approximately one lane of 240 feet and the other of 265 feet; however, an additional 300 feet of storage from the through lane can accommodate the remaining vehicles before reaching Imperial Highway
4 The southbound dual left-turn pocket consists of approximately one lane of 310 feet and the other of 270 feet.

SR-57 Off-Ramp Queuing Analysis

A "turn pocket" queuing evaluation was also conducted for the SR-57 off-ramps at Lambert Road and Imperial Highway to determine the minimum required stacking/storage lengths for all off-ramp lanes. The off-ramp queuing evaluation was conducted for Year 2022 Plus Project Traffic Conditions and Year 2040 Plus Project Traffic Conditions. Appendix G of the TIA (see Appendix I) presents the Synchro queuing worksheets for the project driveways.

Table 5.12-22, *Year 2022 Peak Hour Freeway Off-Ramp Queuing Analysis*, and Table 5.12-23, *Year 2040 Peak Hour Freeway Off-Ramp Queuing Analysis*, identify the minimum required stacking/storage lengths for the off-ramp lanes at the four ramp intersections of SR-57 at Lambert Road and Imperial Highway for the "Year 2022 Plus Project" and "Year 2040 Plus Project" traffic conditions, respectively. The stacking/storage requirements are the minimum required to ensure that vehicles do not queue beyond the off-ramp, causing interruptions to through-traffic on the mainline of SR-57. Based on the estimated storage now provided on the off-ramp intersections of SR-57 at Lambert Road and Imperial Highway, adequate storage is provided. Therefore, no modifications to the freeway off-ramps are required.

Table 5.12-22 Year 2022 Peak Hour Freeway Off-Ramp Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Year 2022 With Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
	SR-57 Southbound Ramps at Lambert Road[2]							
4	SB-LT	1,120'	672	Yes	198	Yes	344	Yes
	SB-RT	1,120'	407	Yes	483	Yes	716	Yes
	SR-57 Northbound Ramps at Lambert Road[2]							
5	NB-LT	1,595'	483	Yes	179	Yes	252	Yes
	NB-RT	525'	432	Yes	123	Yes	176	Yes
	SR-57 Southbound Ramps at Imperial Highway							
21	SB-LT	1,300'	206	Yes	474	Yes	542	Yes
	SB-LT/RT	1,300'	206	Yes	474	Yes	542	Yes
	SB-RT	1,300'	203	Yes	465	Yes	554	Yes

Table 5.12-22 Year 2022 Peak Hour Freeway Off-Ramp Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Year 2022 With Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
	SR-57 Northbound Ramps at Imperial Highway							
22	NB-LT	1,270'	515	Yes	492	Yes	752	Yes
	NB LT/T/RT	1,300'	752	Yes	531	Yes	864	Yes
	NB-RT[3]	1,300'	527	Yes	342	Yes	528	Yes

Source: LLG 2020. Queuing worksheets are provided in Appendix G in the TIA, Appendix I of the DEIR.
Bold: Inadequate Storage Provided
Notes:
NB: northbound; SB: southbound, WB: westbound; EB: eastbound; T: through; RT: right-turn; LT: left turn
[1] Maximum Queue/ Minimum Storage Required.
[2] The reported storage provided for the SR-57 Freeway ramps is estimated and is subject to confirmation upon final design and completion of the SR-57 Lambert Road Interchange project.
[3] The southbound right-turn pocket consists of approximately 265 feet of storage; however, an additional 1,035 feet of storage from the shared left/right-turn lane can accommodate the remaining vehicles.

Table 5.12-23 Year 2040 Peak Hour Freeway Off-Ramp Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Year 2040 With Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
	SR-57 Southbound Ramps at Lambert Road[2]							
4	SB-LT	1,120'	611	Yes	213	Yes	357	Yes
	SB-RT	1,120'	354	Yes	482	Yes	713	Yes
	SR-57 Northbound Ramps at Lambert Road[2]							
5	NB-LT	1,595'	629	Yes	167	Yes	614	Yes
	NB-RT	525'	549	Yes	126	Yes	443	Yes
	SR-57 Southbound Ramps at Imperial Highway							
21	SB-LT	1,300'	213	Yes	206	Yes	507	Yes
	SB-LT/RT	1,300'	213	Yes	206	Yes	507	Yes
	SB-RT	1,300'	210	Yes	206	Yes	524	Yes

Table 5.12-23 Year 2040 Peak Hour Freeway Off-Ramp Queuing Analysis

#	Key Intersection	Estimated Storage Provided (feet)	Year 2040 With Project					
			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided	Feet Needed[1]	Adequate Storage Provided
22	**SR-57 Northbound Ramps at Imperial Highway**							
	NB-LT	1,270'	464	Yes	336	Yes	758	Yes
	NB LT/T/RT	1,300'	711	Yes	369	Yes	860	Yes
	NB-RT[3]	1,300'	503	Yes	156	Yes	534	Yes

Source: LLG 2020. Queuing worksheets are provided in Appendix G in the TIA, Appendix I of the DEIR.
Bold: Inadequate Storage Provided
Notes:
NB: northbound; SB: southbound, WB: westbound; EB: eastbound; T: through; RT: right-turn; LT: left turn
[1] Maximum Queue/ Minimum Storage Required.
[2] The reported storage provided for the SR-57 ramps is estimated and is subject to confirmation upon final design and completion of the SR-57 Lambert Road Interchange project.
[3] The southbound right-turn pocket consists of approximately 265 feet of storage; however, an additional 1,035 feet of storage from the shared left/right-turn lane can accommodate the remaining vehicles.

Imperial Highway Collision History

Vehicle stacking and queuing is a representation of the number of vehicles which are delayed on a segment. Insufficient queuing and stacking has the potential to increase safety hazards, particularly for collisions as vehicles change lanes because of congestion. At the direction of the City of Brea and Caltrans, five years of collision history was researched via the Statewide Integrated Traffic Records System (SWITRS) for the intersections of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway. The data was compiled from November 2014 through November 2018. The accident data for State College Boulevard at Imperial Highway and Randolph Avenue at Imperial Highway are shown in Table 5.12-24, *Imperial Highway Collision History*. Two to six collisions per year related to lane changes due to vehicles making erratic lane changes to try and enter the SR-57 SB on-ramps along Imperial Highway. Review of this data shows a collision may be correctable via modifications to the SR-57 SB on-ramps and upgrades to the existing traffic signal equipment as necessary to enhance safety. However, based on the collision history, safety hazards, particularly for collisions as vehicles change lanes because of congestion at State College and Imperial Highway are an existing safety hazard and the project would contribute to safety hazards at this location. Therefore, safety impacts are considered potentially significant.

Table 5.12-24 Imperial Highway Collision History

Time Period	Total	Correctable
#19 – Randolph Avenue at Imperial Highway		
11/14 through 11/15	7	0
11/15 through 11/16	8	0
11/16 through 11/17	5	0
11/17 through 11/18	7	0
#20 – State College Boulevard at Imperial Highway		
11/14 through 11/15	31	1 (Auto/Ped)
11/15 through 11/16	29	6 (Lane Change)
11/16 through 11/17	27	3 (Lane Change)
11/17 through 11/18	31	2 (Lane Change)

Source: LLG 2020.
Notes: Ped: pedestrian

Emergency Access

The surrounding roadways would continue to offer emergency access to the project area and surrounding properties during and after construction. Moreover, the proposed project would not result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant. In the event of emergency, Brea Fire Department Station #1 is approximately 1.30 miles northwest of the site, and Brea Fire Department Station #2 is approximately 0.60 mile northwest of the project area. Response time from Station #1 to the project area is four to six minutes for emergency services. Impacts to emergency services would be less than significant.

Level of Significance before Mitigation: The project would not have sufficient stacking and Impact 5.12-3 would be significant.

5.12.5 Cumulative Impacts

The analyses in Impact 5.12-1 evaluate traffic conditions at local jurisdictions, CMP, and state-controlled intersections for cumulative conditions with and without the project utilizing two traffic methodologies: HCM (intersection delay) and ICU (general plan consistency). Cumulative traffic impacts (Year 2022 and Year 2040) consider the impacts of future growth and development in the City of Brea and vicinity on the roadway system serving the area. For Year 2022, the traffic study included traffic from six projects in the local vicinity (see Table 4-2) and accounted for ambient traffic growth. Year 2040 cumulative conditions were based on the subregional traffic model, OCTAM, and include traffic associated with the Brea 265 Specific Plan. Thus, the analysis considered cumulative impacts of the proposed project. As identified in Impact 5.12-1, the project would cumulatively contribute to congestion at the following intersections, all of which are under the jurisdictional authority of Caltrans:

- #16 – Harbor Boulevard at Imperial Highway
- #18 – Brea Boulevard at Imperial Highway
- #19 – Randolph Avenue at Imperial Highway
- #20 – State College Boulevard at Imperial Highway
- #22 – SR-57 NB Ramps at Imperial Highway
- #23 – Associated Road at Imperial Highway

Mitigation measures are identified (see Section 5.12-7, *Mitigation Measures*) that would offset the project's impact, but the installation of these improvements is subject to the approval of Caltrans. Since the proposed project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, cumulative impacts are considered significant.

The proposed project is consistent with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities and the performance and safety of such facilities, and would not combine with other area projects to result in significant impacts to such facilities.

Site access is adequately designed and would not combine with other area traffic impacts to result in significant cumulative impacts on circulation or emergency access, or create hazardous conditions. However, the project would cumulatively contribute to the elevated incidence of collisions at the intersection of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway as result of vehicles making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway.

5.12.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.12-2.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.12-1** The project could potentially conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- **Impact 5.12-3** Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. However, project driveways would not have sufficient stacking and could result in an increase in vehicle conflicts.

5.12.7 Mitigation Measures

Impact 5.12-1

TRAF-1 Prior to issuance of a building permit, the City and Caltrans shall jointly identify feasible operational and physical improvements and the associated fair-share funding contribution necessary to mitigate project-related direct and indirect impacts to state transportation facilities, including these intersections: #16 Harbor Boulevard at Imperial Highway, #18 Brea Boulevard at Imperial Highway, #19 Randolph Avenue at Imperial Highway, #20 State College Boulevard at Imperial Highway, #22 SR-57 NB Ramps at Imperial Highway, and #23 Associated Road at Imperial Highway.

Mitigation Measures Considered and Determined to be Infeasible

The traffic impact analysis identified potential mitigation measures for intersections #16, #18, #19, #20, #22, and #23, all of which are within the jurisdictional authority of Caltrans. It should be noted that the implementation of the measures identified below would mitigate the project impacts; however, these improvements are within Caltrans' right-of-way and are subject to Caltrans review and approval.

- **#16 – Harbor Boulevard at Imperial Highway.**
  - Widen the west leg to provide an exclusive eastbound right-turn lane. Right-of-way acquisition would be required for this improvement.
  - Modify the existing traffic signal to provide southbound right-turn overlap phasing.
- **#18 – Brea Boulevard at Imperial Highway.**
  - Restripe the southbound approach to provide a third southbound through-lane.
  - Modify the existing traffic signal.
- **#19 – Randolph Avenue at Imperial Highway.**
  - Restripe the northbound shared left-turn/through lane to a through lane.
  - Modify the existing traffic signal to convert the split phasing on Randolph Avenue to protected left-turn phasing and eight-phase operation.
- **#20 – State College Boulevard at Imperial Highway.**
  - Conduct minor widening and restripe the southbound approach to provide an exclusive southbound right-turn lane.
  - Modify the median and restripe the No. 2 southbound left-turn lane into a trap left turn lane.
  - Modify the existing traffic signal.

- In conjunction with the lengthening of the southbound left-turn lane it is recommended that the No. 2 eastbound through lane along Imperial at the SR-57 southbound on-ramp be converted to a shared through/right-turn lane.

- **#22 – SR-57 NB Ramps at Imperial Highway.**
  - Widen and/or restripe the off-ramp to provide a second exclusive northbound right-turn lane.
  - Modify the existing traffic signal.

- **#23 – Associated Road at Imperial Highway.**
  - Restripe the exclusive southbound right-turn lane to a shared through/right-turn lane.
  - Modify the existing traffic signal.

Impacts to Caltrans Facilities

State highway facilities within the study area are not within the jurisdiction of the City of Brea. Rather, improvements to state highway facilities are planned, funded, and constructed by the State of California through a legislative and political process involving the State Legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; Caltrans; and OCTA. Recent funding opportunities designated by OCTA's Renewed Measure M provide the vehicle for designated improvements on the Caltrans facilities within the study area.

Though potential impacts to Imperial Highway (SR-90) have been evaluated, implementation of the transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on SR-90, but neither Caltrans nor the State has adopted a program that can ensure that locally-contributed impact fees will be tied to improvements to Caltrans facilities, and only Caltrans has jurisdiction over improvements to Caltrans facilities. Because Caltrans has exclusive control over state highway improvements, ensuring that developer fair-share contributions to improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans.

However, a number of programs are in place in Orange County to improve and upgrade the regional transportation system. These include the Transportation Corridor Agencies (TCA) Corridor program, the State Transportation Improvement Program (STIP), Caltrans Traffic Operations Strategies (TOPS), State Highway Operation and Protection Program (SHOPP), and the OCTA Measure M program. State and federal fuel taxes generate most of the funds used to pay for these improvements. Funds expected to be available for transportation improvements are identified through a fund estimate prepared by Caltrans and adopted by the California Transportation Commission (CTC). These funds, along with other fund sources, are deposited in the State Highway Account to be programmed and allocated to specific project improvements in both the STIP and SHOPP by the CTC. However, if these programs are not implemented by the agencies with the responsibility to do so (i.e., Caltrans), the project's impacts to Imperial Highway (SR-90) would remain significant and unmitigated.

Caltrans has no mechanism by which projects can contribute fair share fees to offset cumulative impacts. Therefore, the mitigation measures were considered but determined to be infeasible.

Impact 5.12-3

Caltrans has identified that the intersections of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway have higher numbers of collisions than the state average under existing conditions and the project would cumulatively contribute to these existing safety hazards. These collisions are due to vehicles (both Brea Mall related and commuter related) making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway.

Safety at intersection #20, State College Boulevard and Imperial Highway, could be improved by via modifying the SR-57 SB on-ramp to allow for two lanes onto the freeway and signal upgrades to enhance safety. No correctable conditions were identified for intersection #19, Randolph Avenue at Imperial Highway. However, similar to what is described above for impacts to Caltrans facilities, these improvements are within the jurisdiction authority of Caltrans. Caltrans has no mechanism by which projects can contribute fair share fees to offset cumulative impacts. Therefore, the mitigation measures were considered but determined to be infeasible. It should be noted that Caltrans has an ongoing safety improvement project along Imperial Highway to upgrade traffic signal indications and pedestrian facilities and that is expected that those improvements once completed would reduce the risk of future crashes.

- **#20 – State College Boulevard at Imperial Highway.** Modify the eastbound approach to accommodate two through lanes, a shared through/right-turn lane, and an exclusive right-turn lane.
- **#21 – SR-57 SB Ramps at Imperial Highway.** Modify the SR-57 SB On-Ramp to allow for two lanes onto the freeway.

5.12.8 Level of Significance After Mitigation

Impact 5.12-1

Mitigation Measure TRAF-1 would require that Caltrans and the City coordinate to identify improvements along Imperial Highway to reduce the project's direct and indirect impacts. In addition, the TIA identified several infrastructure and signal timing improvements that would offset the project's impact at the intersections of #16 Harbor Boulevard at Imperial Highway, #18 Brea Boulevard at Imperial Highway, #19 Randolph Avenue at Imperial Highway, #20 State College Boulevard at Imperial Highway, #22 SR-57 NB Ramps at Imperial Highway, and #23 Associated Road at Imperial Highway (see Table 5.12-25, *Project Peak Hour Intersection Capacity Analysis With Mitigation – HCM,* and Table 5.12-26, *Project Peak Hour Intersection Capacity Analysis With Mitigation – ICU*). However, the installation of these improvements is subject to the approval of Caltrans. Additionally, Caltrans does not have any mechanisms by which projects can contribute fair-share fees to offset impacts. Since the proposed project cannot guarantee that these improvements under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for these locations.

Table 5.12-25 Peak Hour Intersection Capacity Analysis With Mitigation – HCM

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing Plus Project With Mitigation		Year 2022 With Project With Mitigation		Year 2040 With Project With Mitigation		Significant Impact
				HCM s/v	LOS	HCM s/v	LOS	HCM s/v	LOS	
16	Harbor Boulevard at Imperial Highway[1]	Caltrans (D)	AM	—	—	—	—	44.9	D	No
			PM	—	—	—	—	44.3	D	No
			Sat MD	—	—	—	—	40.8	D	**Yes[2]**
18	Brea Boulevard at Imperial Highway	Caltrans (D)	AM	—	—	45.5	D	40.6	D	**Yes[2]**
			PM	—	—	40.7	D	44.3	D	No
			Sat MD	—	—	43.8	D	42.2	D	No
19	Randolph Avenue at Imperial Highway	Caltrans (D)	AM	15.1	B	15.7	B	14.9	B	No
			PM	29.6	C	31.7	C	26.4	C	No
			Sat MD	42.7	D	47.3	D	38.2	D	**Yes[2]**
20	State College Boulevard at Imperial Highway[1]	Caltrans (D) **CMP (E)**	AM	—	—	44.3	D	39.9	D	No
			PM	—	—	**65.7**	**E[3]**	**57.0**	**E[3]**	**Yes[2]**
			Sat MD	—	—	**160.7**	**F[3]**	**133.9**	**F[3]**	No
22	SR-57 NB Ramps at Imperial Highway[1]	Caltrans (D)	AM	—	—	—	—	24.9	C	No
			PM	—	—	—	—	36.1	D	No
			Sat MD	—	—	—	—	49.5	D	**Yes[2]**
23	Associated Road at Imperial Highway	Caltrans (D)	AM	—	—	—	—	41.0	D	**Yes[2]**
			PM	—	—	—	—	42.6	D	No
			Sat MD	—	—	—	—	37.3	D	No

Source: LLG 2020. HCM LOS calculation worksheets are provided in Appendix D in the TIA, Appendix I of the DEIR.
Notes: HCM: highway capacity manual; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan
Bold: exceeds minimum acceptable LOS.
[1] CMP intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] Project impact because this location is outside the jurisdictional control of the City of Brea.
[3] The mitigation improves to pre-project conditions.

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Table 5.12-26 Peak Hour Intersection Capacity Analysis With Mitigation – ICU

#	Key Intersection	Jurisdiction (Minimal Acceptable LOS)	Time Period	Existing Plus Project With Mitigation		Year 2022 With Project With Mitigation		Year 2040 With Project With Mitigation		Significant Impact
				ICU	LOS	ICU	LOS	ICU	LOS	
20	State College Boulevard at Imperial Highway[1]	Caltrans (D)	AM	0.668	B	0.721	C	0.778	C	No
			PM	0.758	C	0.812	D	0.884	D	No
			Sat MD	**0.964**	**E[3]**	**1.036**	**F[3]**	**1.084**	**F[3]**	**Yes[2]**

Source: LLG 2019. ICU LOS calculation worksheets are provided in Appendix C in the TIA, Appendix I of the DEIR.
Notes: ICU: Intersection Capacity Utilization; s/v: seconds per vehicle; Sat MD Saturday midday; SB: southbound; NB: northbound; SR: State Route; CMP: congestion management plan
Bold: exceeds minimum acceptable LOS.
[1] CMP Intersection. The OCTA CMP defines LOS E as the acceptable limit and is acceptable for State Highway intersections.
[2] Project impact because this location is outside the jurisdictional control of the City of Brea.
[3] The mitigation improves to pre-project conditions.

Although the mitigation measures to offset cumulative impacts to Caltrans' facilities were considered and rejected as feasible mitigation for the project, the proposed project would be required to pay development impact fees to the City of Brea. To satisfy the AB 1600 legislative requirement, development impact fees have been established for future traffic impacts in Brea (Ordinance 966). To ensure that every development project contributes a fair share of transportation improvements in the community, the City has introduced the "Transportation Improvement Nexus Program." Traffic impact fees are required for all new development in Brea and annexed portions of its sphere of influence. Based on a transportation improvement nexus program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, effective February 4, 2012. These fees are required, in part, by Orange County's Measure M, a transportation initiative passed by voters in 1990. More importantly, these are fair-share fees that would serve to offset or mitigate the cumulative traffic impacts caused by new development. The program ensures all future development in the City of Brea contributes on a fair-share basis.

Caltrans has exclusive control over improvements on Imperial Highway (SR-90). Therefore, ensuring that developer fair share contributions to improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans. Since the proposed project cannot guarantee that the improvements identified above would be implemented by Caltrans and/or collect fair share payments toward these improvements, Impact 5.12-1 would be **Significant and Unavoidable**.

Impact 5.12-3

Traffic (both Brea Mall-related and commuter related) has the potential to block through lane traffic at State College Boulevard at Imperial Highway. Caltrans has identified that the intersections of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway have elevated incidences of collisions compared to the state average under existing conditions and the project would cumulatively contribute to these existing safety hazards. These collisions are due to vehicles making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway. Safety at intersection #20, State College Boulevard and Imperial Highway, could be improved by via modifying the SR-57 SB on-ramp to allow for two lanes onto the freeway and signal upgrades to enhance safety. The addition of a second SR-57 southbound on-ramp from Imperial Highway would help distribute southbound left-turn traffic more equally between the lanes. No correctable conditions were identified for intersection #19, Randolph Avenue at Imperial Highway. Caltrans has an on-going safety improvement project along Imperial Highway to upgrade traffic signal indications and pedestrian facilities and that it is expected that those improvements once completed would reduce the risk of future crashes. However, these improvements are within the jurisdiction authority of Caltrans. Caltrans has no mechanism by which projects can contribute fair share fees to offset cumulative impacts. Since the proposed project cannot guarantee that the improvements identified above would be implemented by Caltrans and/or collect fair share payments toward these improvements, Impact 5.12-3 would be **Significant and Unavoidable**. It should be noted that Caltrans has an ongoing safety improvement project along Imperial Highway to upgrade traffic signal indications and pedestrian facilities and that is expected that those improvements once completed will reduce the risk of future crashes.

5.12.9 References

Brea, City of. 2003. The City of Brea General Plan. https://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan?bidId=

Linscott, Law, and Greenspan (LLG) Engineers. 2020, January 9. Traffic Impact Analysis Report Brea Mall Mixed Use Project.

5.13 TRIBAL CULTURAL RESOURCES

Tribal cultural resources (TCR) include landscapes, sacred places, or objects with a cultural value to a California Native American tribe. This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the proposed Brea Mall Mixed Use project to impact TCRs in the City of Brea. Other potential impacts to cultural resources (i.e., prehistoric, historic, paleontological, and disturbance of human remains) are evaluated in Section 5.3, *Cultural and Paleontological Resources*. The analysis in this section is based in part on information on consultation with tribes identified on the Native American Heritage Commission Tribal Consultation List Orange County, provided by the Native American Heritage Commission (NAHC), June 4, 2019 and the Tribal Consultation Correspondence which are included as Appendix J to this DEIR.

5.13.1 Environmental Setting

5.13.1.1 REGULATORY BACKGROUND

Federal

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (United States Code, Title 16, Sections 470aa–mm) became law on October 31, 1979, and has been amended four times. It regulates the protection of archaeological resources and sites that are on federal and Indian lands.

Native American Graves Protection and Repatriation Act

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

State

California Public Resources Code

Archaeological resources are protected pursuant to a wide variety of state policies and regulations enumerated under the California Public Resources Code (PRC). In addition, cultural resources are recognized as a nonrenewable resource and therefore receive protection under the California PRC and CEQA.

California Public Resources Code 5097.9–5097.991 provides protection to Native American historical and cultural resources, and sacred sites and identifies the powers and duties of the NAHC. It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.

California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that if human remains are discovered on the project area, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and recognizes or has reason to believe the human remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC.

California Register of Historical Resources

The California Register of Historic Resources is the state version of the National Register of Historic Resources program (see also Section 5.2, *Cultural and Paleontological Resources*). It was enacted in 1992 and became official January 1, 1993. The California Register was established to serve as an authoritative guide to the state's significant historical and archaeological resources. Resources that may be eligible for listing include buildings, sites, structures, objects, and historic districts. According to subsection (c) of PRC Section 5024.1, a resource may be listed as a historical resource in the California Register if it meets any of the four National Register criteria.

California Senate Bill 18

Existing law provides limited protection for Native American prehistoric, archaeological, cultural, spiritual, and ceremonial places. These places may include sanctified cemeteries, religious, ceremonial sites, shrines, burial grounds, prehistoric ruins, archaeological or historic sites, Native American rock art inscriptions, or features of Native American historic, cultural, and sacred sites.

Senate Bill 18 was signed into law in September 2004 and went into effect on March 1, 2005. It places new requirements upon local governments for developments within or near "traditional tribal cultural places" (TTCP). Per SB 18, the law requires local jurisdictions to provide opportunities for involvement of California Native Americans tribes in the land planning process for the purpose of preserving traditional tribal cultural places. The Final Tribal Guidelines recommend that the NAHC provide written information as soon as possible but no later than 30 days after receiving a request to inform the lead agency if the proposed project is determined to be in proximity to a TTCP and another 90 days for tribes to respond to a local government if they want to consult to determine whether the project would have an adverse impact on the TTCP. There is no statutory limit on the consultation duration. Forty-five days before the action is publicly considered by the local government council, the local government refers action to agencies, following the CEQA public review time frame. The CEQA public distribution list may include tribes listed by the NAHC who have requested consultation or it may not. If the NAHC, the tribe, and interested parties agree upon the mitigation measures necessary for the proposed project, they would be included in the project's EIR. If both the City of Brea and the tribe agree that adequate mitigation or preservation measures cannot be taken, neither party is obligated to take action.

SB 18 is triggered before the adoption, revision, amendment, or update of a city's or county's general plan. Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, the Final Tribal Guidelines advises that SB 18 requirements extend to specific plans as well, because state planning law requires local governments to use the same process for amendment or adoption of specific plans as general plans (defined in Government Code § 65453). In addition, SB 18 provides a new definition of TTCP requiring a traditional association of the site with Native American traditional beliefs, cultural practices, or ceremonies, or the site must be shown to actually have been used for activities related to traditional beliefs, cultural practices, or ceremonies. (Previously, the site was defined to require only an association with traditional beliefs, practices, lifeways, and ceremonial activities.) SB 18 law also amended Civil Code Section 815.3 and adds California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places.

Assembly Bill 52

AB 52 took effect July 1, 2015, and requires inclusion of a new section in CEQA documents titled Tribal Cultural Resources, which include heritage sites. Under AB 52, a tribal cultural resource is defined similar to tribal cultural places under SB 18—sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. Or the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource.

Similar to SB 18, AB 52 requires consultation with tribes at an early stage to determine whether the project would have an adverse impact on the TCR and define mitigation to protect them. Per AB 52, within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested it. The tribe then has 30 days of receiving the notification to respond if it wishes to engage in consultation. The lead agency must initiate consultation within 30 days of receiving the request from the tribe. Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a tribal cultural resource, or a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on tribal cultural resources and discuss feasible alternatives or mitigation that avoid or lessen the impact.

Local

City of Brea General Plan

The Community Development chapter of the City of Brea General Plan provides goals and policies on the preservation of historic resources in the City.

5.13.1.2 EXISTING CONDITIONS

A sacred lands file search conducted by the NAHC for the project area did not identify any sacred lands. The NAHC identified 25 local Native American representatives as potentially having local knowledge.

- Agua Caliente Band of Cahuilla Indians
- Campo Band of Diegueno Mission Indians
- Ewiiaapaayp Tribe
- Gabrieleno Band of Mission Indians – Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino/Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Jamul Indian Village
- Juaneno Band of Mission Indians
- Juaneno Band of Mission Indians Acjachemen Nation
- Juaneno Band of Mission Indians Acjachemen Nation – Romero
- La Jolla Band of Luiseno Indians
- La Posta Band of Diegueno Mission Indians
- Manzanita Band of Kumeyaay Nation
- Mesa Grande Band of Diegueno Mission Indians
- Pala Band of Mission Indians
- Pauma Band of Luiseno Indians
- Pechanga Band of Luiseno Indians
- Rincon Band of Luiseno Indians
- San Luis Rey Band of Mission Indians
- San Pasqual Band of Diegueno Mission Indians
- Soboba Band of Luiseno Indians
- Sycuan Band of the Kumeyaay Nation
- Viejas Band of Kumeyaay Indians

The City notified all 25 tribal representatives about the proposed project and asked for information about potential resources at or near the project area. Responses were received from Gabrieleno Band of Mission Indians – Kizh Nation and Gabrielino-Tongva tribe.

5.13.2 Thresholds of Significance

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

TCR-1 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:

i) 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

ii) 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.13.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP TCR-1 Pursuant to California Health and Safety Code Section 7050.5, if human remains are discovered in the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation. If the coroner determines that the remains are not subject to his or her authority and has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC.

5.13.4 Environmental Impacts

Impact 5.13-1: The proposed project would cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant pursuant to criteria in Public Resources Code section 5020.1(k). [Threshold TCR-1]

Conducting consultation early in the CEQA process allows tribal governments, public lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process.

Effective July 1, 2015, AB 52 added TCRs as a resource subject to review under CEQA. AB 52 requires meaningful consultation between lead agencies and California Native American tribes on potential impacts to TCRs, as defined in PRC Section 21074. A TCR is a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either on or eligible for inclusion in the California Historic Register, or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC §§ 21074[a][1-2]).

TCRs may be found throughout Orange County, but information about them is much more difficult to obtain than for most archaeological resources. Currently, there is no database of such resources, and most cannot be identified by surveying the land. Identification of TCRs requires coordination with Native American tribes, and their precise location is often difficult to determine because they may only be documented through the oral history of the tribe.

Sacred Lands File Search

The project area is vacant and surrounded by developed uses. The NAHC's Sacred Lands File record search found no tribal resources on the project area.

SB 18 and AB 52 Consultation

In accordance with SB 18 and AB 52, the City notified the local tribes identified by the NAHC about the proposed project on August 16, 2019, to determine the potential for tribal cultural resources onsite and to determine if local knowledge of TCR is available about the project area and surrounding area. The following tribes responded:

- **Gabrieleno Band of Mission Indians – Kizh Nation (Kizh Nation).** The Kizh Nation requested consultation with the City pursuant to AB 52. The City scheduled consultation with the Kizh Nation for October 10, 2019. During the meeting, the tribe indicated that they wanted to obtain soil reports that have been previously prepared, as well as any future soil reports, to determine the current soil conditions and potential disturbances on the project area, such as off-site fill and infill soil. If limited information is provided in the soil reports, the tribe indicated that they would provide recommended mitigation language.

- **Gabrielino-Tongva Tribe.** The tribe sent a letter to the City, dated October 6, 2019, informing the City that the Gabrielino-Tongva Tribe would be actively participating in the tribal consultation process and indicated that the tribe would prefer to see language that enables their presence on the project area during ground disturbing and excavation activities.

Based on the records search and previous disturbance associated with the project area, which is currently developed with a mall, and the surrounding commercial and residential development, the potential to uncover tribal cultural resources for the site is low. However, because the proposed project would require excavation for construction, there is a potential to uncover tribal cultural resources during excavations, which would also include disturbing previously undisturbed soils as excavation would occur below the current foundations.

Ground-disturbing activities, such as excavation and grading, may encounter undisturbed native soils, and it is possible that discovery of subsurface TCRs could occur, the disturbance of which could cause a substantial adverse change in the significance of the resource(s) if not mitigated.

Level of Significance Before Mitigation: Based on the analysis above, Impact 5.13-1 would be potentially significant.

5.13.5 Cumulative Impacts

As with the proposed project, each related cumulative project would be required to comply with AB 52 and PRC Section 21083.2(i), which addresses accidental discoveries of archaeological sites and resources, including tribal cultural resources. Therefore, any discoveries of TCRs caused by the project or related projects would be mitigated to a less than significant level; therefore, project impacts would not be cumulatively considerable.

5.13.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant:**

- **Impact 5.10-1** Project implementation could result in an adverse change in Native American resources during construction activities.

5.13.7 Mitigation Measures

Impact 5.13-1

CUL-1 Prior to issuance of grading permits, a qualified archaeological monitor shall be identified to be on call during ground-disturbing activities. If archaeological resources are discovered during excavation and/or activities, construction shall stop within 25 feet of the find, and the qualified archaeologist shall be consulted to determine whether the resource requires further study. The archaeologist shall make recommendations to the City of Brea to protect the discovered resources. Archaeological resources recovered shall be provided to an accredited museum such as John D. Cooper Center in Fullerton or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.

TCR-1 If the professional archaeologist implementing Mitigation Measure CUL-1 believes that a cultural resource encountered onsite is of Native American origin, the archaeologist shall notify representatives of Native American tribes with traditional territories in the project region. If requested by the Native American tribe(s), the developer or archaeologist on call shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe). If the resources are Native American in origin, a tribal monitor from the consulting tribe shall be present during the remaining site-grading activities.

TCR-2 During construction activities, the project applicant shall allow archaeological monitors of Native American tribes to access the project area on a volunteer basis to monitor grading and excavation activities.

5.13.8 Level of Significance After Mitigation

Impact 5.13-1

Mitigation Measures CUL-1, TCR-1, and TCR-2 would reduce potential impacts associated with tribal cultural resources to a level that is less than significant. Mitigation Measure TCR-1 would require a tribal monitor to be present if cultural resource of Native American origin is discovered onsite. In accordance with Mitigation Measure CUL-1, resources recovered would be deposited at a local museum or repository to ensure their preservation. Therefore, no significant unavoidable adverse impacts relating to tribal cultural resources remain.

5.13.9 References

Native American Heritage Commission (NAHC), 2019, June 4. Native American Heritage Commission Tribal Consultation List Orange County and Tribal Consultation Correspondence.

5.14 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) addresses the potential for implementation of the Brea Mall Mixed Use Project (proposed project) to impact utilities and service systems in the City of Brea. Utilities and services systems include water supply and distribution systems; wastewater (sewage) conveyance and treatment; storm drainage systems; solid waste collection and disposal services; and other public utilities. Impacts to hydrology (e.g., flooding) and water quality can be found in Section 8.4, *Hydrology and Water Quality*. Cumulative impacts are based on the service area of the utilities: Orange County Sanitation District (OCSD), City of Brea Water Utility, Orange County Flood Control District (OCFD), and the Orange County Sanitation, and Orange County Waste and Recycling. The analysis in this section is based in part on the following technical studies:

- *Wastewater Flow Monitoring Services* , raSmith, October 10, 2019
- *Preliminary Hydrology Memorandum*, raSmith, November 11, 2019
- *Priority Project Preliminary Water Quality Management Plan*, raSmith, November 11, 2019

Complete copies of these studies are included in this DEIR as Appendices K, L, and M, respectively.

5.14.1 Wastewater Treatment and Collection

5.14.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Clean Water Act and National Pollution Elimination Discharge System

The federal Clean Water Act requires that wastewater be treated before it is discharged to Waters of the United States (US Code Title 33, Sections 1251 et seq.). Requirements for waste discharges from publicly owned treatment works to navigable waters are addressed in National Pollution Elimination Discharge System (NPDES) regulations under the Clean Water Act. NPDES permits for such discharges in the project region are issued by the Santa Ana Regional Water Quality Control Board (RWQCB).

Regional

Impact Fees

The City of Brea collects sanitary sewer connection fees on behalf of the County of Orange at issuance of building permits. The capital facilities capacity charge per land use is as follows:

- Commercial – Industrial (per 1,000 square feet)
  - Low demand—$334
  - Average demand—$2,078
  - High demand—$4,9372

- Multifamily Residential
  - 4+ bedrooms—$4,969/unit
  - 3 bedrooms—$4,095/unit
  - 2 bedrooms—$3,221/unit
  - 1 bedroom—$2,300/unit
  - Studio—$1,472/unit

Local

2005 Sewer Master Plan

The City of Brea's Sewer Master Plan evaluates the capacity of the entire system and identifies the capital improvement program that will provide the needed capacity in accordance with its criteria. The Master Plan also includes condition assessment of 91 percent of the system based on inspections conducted in 1999 through 2001, and formulates rehabilitation and replacement projects that would eliminate the condition deficiencies in the system. The recommendations of these evaluations are combined into a comprehensive capital improvement program that is presented in the Master Plan.

2016 Sewer System Management Plan

The Sewer System Management Plan was prepared in compliance with order 2006-0003-DWQ issued by the State Water Resources Control Board. The order requires every owner and operator of a publicly owned sewer system to develop and implement a system-specific Sewer System Management Plan. This plan sets forth goals and actions to be followed, and guidelines for various activities involved in managing, operating, maintaining, repairing, replacing, and expanding the sewer system.

Impact Fees

The City of Brea requires sanitary sewer connection fees based on the fixtures installed:

- Bidet, dental units, showers gang per head, sink (bar, floor), washbasin (lavatory)—$5 per fixture
- Bathtub, floor drain, laundry tub or washer, shower, sink (bar commercial/kitchen/service), urinal (pedestal/stall), wash basin (set, double lavatory)—$10 per fixture
- Interceptors (grease/oil/solids, sand, auto wash, etc.), laundry tub or washer (self-serve), receptors, sink (flushing rim), swimming pool—$15 per fixture
- Urinal wall trough, water closet (toilet)—$20 per fixture
- Mobile Home Park (each pad)—$90

Existing Conditions

Wastewater Flows

The City's existing wastewater collection system is made up of a network of gravity sewers and one sewer pump station (Brea 2005). The gravity system consists of approximately 110 miles of pipe and 2,650 sewer mains (i.e., manholes). The majority of the gravity sewers are constructed of vitrified clay pipe with sizes ranging from 8 inches to 27 inches in diameter. The sewer system service area consists of 10 major sewersheds, which are areas of land where all the sewers drain to City trunk sewers, which in turn, outlet to OCSD facilities.

The hydraulic analysis of the existing sewers with peak wet weather flows indicated capacity deficiency in a total of 7,450 feet of pipe in three drainage regions:

- **Fullerton Drainage Region:** 6,096 feet of 8-inch to 12-inch sewers along Brea Creek Channel, Brea Municipal Golf Course, Berry Street, Imperial Highway, Arovista Park.
- **Laurel Drainage Region:** 822 feet of 8-inch diameter sewers in Cherry Street and Alder Street.
- **Rolling Hills Drainage Region:** 523 feet of 8-inch and 10-inch diameter sewers in Lambert Road/State College Boulevard, and Randolph Avenue north, across, and south of Imperial Highway.

Table 5.14-1, *Existing Wastewater Flows by Drainage Region*, shows a summary of the calculated existing (2005) wastewater flows generated by each drainage region.

Table 5.14-1 Existing Wastewater Flows by Drainage Region

Region Number	Region Name	Average Dry Weather Flow (MGD)	Peak Dry Weather Flow (MGD)	Inflow/Infiltration (MGD)	Peak Wet Weather Flow (MGD)
1	Imperial	0.932	1.666	0.417	2.083
2	Fullerton	1.448	2.498	0.625	3.123
3	Brea	0.195	0.395	0.099	0.494
4	Laurel	0.210	0.422	0.106	0.528
5	Rolling Hills	1.124	1.979	0.495	2.474
6	Associated	0.662	1.215	0.304	1.519
7	Cypress	0.059	0.131	0.033	0.164
8	Kraemer	0.477	0.900	0.225	1.125
9	Valencia	0.143	0.297	0.074	0.371
10	Carbon Canyon	0.223	0.446	0.112	0.558
	City Total	**5.473**	**9.949**	**2.49**	**12.439**

Source: Brea 2005.
MGD = million gallons per day

According to the Sewer Master Plan, the following development projects were reviewed during the course of the study: Birch Hills, Brea Highlands, Brea Sports Park, Brea Towne Plaza, Carbon Canyon, Canyon Crest,

and Tonner Canyon (Brea 2005). Table 5.14-2, *Ultimate Wastewater Flows by Drainage Region,* summarizes the calculated ultimate wastewater flows expected to be generated by each drainage region.

Table 5.14-2 Ultimate Wastewater Flows by Drainage Region

Region Number	Region Name	Average Dry Weather Flow (MGD)	Peak Dry Weather Flow (MGD)	Inflow/Infiltration (MGD)	Peak Wet Weather Flow (MGD)
1	Imperial	1.154	2.027	0.507	2.534
2	Fullerton	1.851	3.130	0.783	3.913
3	Brea	0.233	0.465	0.116	0.581
4	Laurel	0.219	0.439	0.110	0.549
5	Rolling Hills	1.268	2.211	0.553	2.764
6	Associated	0.776	1.407	0.352	1.759
7	Cypress	0.207	0.418	0.105	0.523
8	Kraemer	0.995	1.768	0.442	2.210
9	Valencia	0.445	0.843	0.211	1.054
10	Carbon Canyon	0.934	1.668	0.417	2.085
City Total		**8.082**	**14.376**	**3.596**	**17.972**

Source: Brea 2005.
MGD = million gallons per day

Analyses of the collection system main-line sewers showed ultimate capacity deficiencies in a total of 22,924 feet of pipe in six drainage regions:

- **Imperial Drainage Region:** 868 feet of 8-inch diameter sewers in Walling Avenue, Central Avenue, Sky Lake Avenue, and Village Lake Avenue.
- **Fullerton Drainage Region:** 11,025 feet of 8-inch to 15-inch sewers and a 27-inch creek crossing in Brea Boulevard, Pepper Tree Drive, along Brea Creek Channel, Brea Municipal Golf Course, Berry Street, Imperial Highway, and Arovista Park. A total of 6.096 feet of these sewers were also deficient under the existing conditions.
- **Laurel Drainage Region:** 822 feet of 8-inch sewers in Alder Street and Cherry Street. These sewers were also deficient under the existing conditions.
- **Rolling Hills Drainage:** 594 feet of 8-inch to 12-inch sewers in Lambert Road at State College Boulevard, and Randolph Avenue at Imperial Highway. A total of 532 feet of these sewers were also deficient under the existing conditions.
- **Valencia Drainage Region:** 3,152 feet of 8-inch pipe in Vesuvius Drive, an easement west of Tolbert Drive, and Elm Street.
- **Carbon Canyon Drainage Region:** 6,461 feet of 8-inch to 10-inch pipe in Carbon Canyon Road and easements south of Carbon Canyon Road.

According to the 2016 Sewer System Management Plan, the Brea Mall is in drainage regions 3 through 6 (Brea 2016a).

Pump Stations

The City owns and maintains two pump stations, both in the Fullerton Drainage Region:

- **Briarwood Pump Station** is on Briarwood Drive in the southwest corner of the City. It is a submersible pump stations that serves 11 homes. Three homes are on South Puente Street just north of Briarwood Drive, and eight homes are along Briarwood Drive just west of South Puente Street. The pumps are housed within a 5-foot-diameter sewer main. The sewage is discharged through a 4-inch-diameter cast iron force main. The alarm system for this facility consists of a flashing red light that indicates a high level or pump failure. Local residents call Brea Police and Fire Dispatch to notify the City of an alarm at this station (Brea 2016a).

- **Arovista Park Pump Station** is a submersible pump station built in 2005. It relieves a deficient 15-inch-diameter sewer in the Fullerton Drainage Region. It lifts the portion of the wastewater that exceeds the capacity of the existing 15-inch sewer along the west side of the Brea Creek Channel into a new 15-inch relief sewer at a higher elevation, located in Mulberry Avenue, Acacia Street, Walnut Avenue, and Juniper Street, to a connection to OCSD's Fullerton-Brea Interceptor (Brea 2016a).

In addition to the Briarwood and Arovista Pump Stations, the La Floresta Pump Station, in the southeast portion of the City, serves approximately 647 homes. It is equipped with two submersible vortex pumps that are housed in an 8-foot-square by 28-foot-deep wet well. Effluent from the lift station is discharged through a 6-inch force main. The lift station is equipped with an 80-kilowatt sound-attenuated diesel-driven generator and automatic transfer switch. Ownership of the lift station has not yet been formally transferred to the City. However, the lift station is currently in operation and flows discharge to the City sewer system. The lift station is equipped with an alarm to send high level warnings to the cell phones of City sewer operations supervisors (Brea 2016a).

Orange County Sanitation District

OCSD provides wastewater collection, treatment, and recycling for approximately 2.6 million people living within a 479-square-mile area of central and northwestern Orange County (OCSD 2018). OCSD's facilities include 396 miles of sewer pipes and 15 pump stations located throughout the county. A total of approximately 185 million gallons per day (MGD) of wastewater is treated at two treatment plants: Plant No. 1 in Fountain Valley and Plant No. 2 in Huntington Beach. The estimated 2017-2018 average daily influents for Plant No. 1 and Plant No. 2 are 120 MGD and 65 MGD, respectively, which is a total of 185 MGD (OCSD 2018). According to the 2016 Groundwater Replenishment System Annual Report, Plant No. 1 has a secondary treatment capacity of 170 MGD (OCWD 2017).

The OCSD is currently replacing four miles of sewer along State College Boulevard from State Route 91 to Orangewood Avenue in the City of Anaheim. Construction began in late summer 2018 and is scheduled to be completed in 2020. Once the project is complete, eight million gallons of wastewater will be diverted to

OCSD's Plant No. 1 in Fountain Valley for treatment before being sent to the Groundwater Replenishment System. This is Phase B of a two-phase project; Phase A of the sewer replacement was completed in 2017 from Yorba Linda Boulevard to SR-91 in the City of Fullerton (OCSD 2019).

5.14.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment 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-5 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.

5.14.1.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP USS-1 The project will pay the Sanitary Sewer Connection Fees collected by the City of Brea, which contribute to maintenance and installation of sewer improvements in the OCSD in accordance with Section 3.32.040, Sewer Service Fees and Charges, of the Brea Municipal Code.

PPP USS-2 As part of the project review process, the City of Brea Engineering Department will require approval of a Final Sewer Study as part of the encroachment permit issuance. The City of Brea Engineering Department will require project design features to address sewer deficiencies within the Brea Mall and within the City's right-of-way on State College Boulevard. Additional design features to address the City of Engineer's requirements will be incorporated as conditions of approval for the project.

5.14.1.4 ENVIRONMENTAL IMPACTS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-1: Project-generated wastewater could be adequately treated by the wastewater service provider for the project. [Thresholds U-1, U-2 (part), and U-5]

Implementation of the proposed project would require the installation of new or expanded sewer laterals and mains in order to accommodate the additional development on the up to 17.5-acre project area. Figure 5.14-1, *Conceptual Sewer Plan,* shows the existing and proposed sewer lines for the proposed project.

The proposed project would increase sewer flows from existing conditions. Wastewater-flow monitoring was performed in the received sewer lines within State College Boulevard (see Appendix K) to determine if the proposed project, when combined the existing sewer flows, would not exceed the capacity of the sewer system. According to the Brea Sewer System Management Plan, the depth versus diameter (d/D) ratio for existing collection system pipes of 15 inches in diameter or less should be no more than 0.50 during dry weather peak flow conditions and for pipes greater than 15 inches in diameter the flows should be no more than 0.64 during dry weather peak flow conditions. Based on the results of the sewer analysis, there are deficiencies in the sewer mains onsite and within the City's right-of-way on State College Boulevard that would occur with implementation of the proposed project. Upgraded sewer mains would be required to be installed in order to implement the proposed project. Since the capacity of a system is contingent upon its most limited segment, the Site 1 and Site 1 Upstream, within Brea Mall and the City's right-of way on State College Boulevard, are the limiting factors to ensuring adequate sewer capacity. The project would remove the existing 8-inch vitrified clay pipe that runs north-south through the former Sears parcel, and would install a new 8-inch vitrified clay pipe sewer line that runs along the new "ring road," as shown in Figure 5.14-1. The new sewer line would connect to the existing sewer lines on State College Boulevard. As identified above, the proposed project would replace the existing onsite sewer line to accommodate the project flows in addition to existing flows (see PPP USS-2. These improvements would occur within areas that are developed and paved and have been disturbed by previous construction of the Brea Mall and State College Boulevard.

Table 5.14-3 Brea Mall Wastewater Generation

Sewer Main Location	Average Dry Weather Flow (ADWF)					
	Existing Brea Mall (mgd)	Proposed Brea Mall (mgd)	Capacity (mgd) Estimated	Remaining Capacity (mgd) Available	Total d/D	Exceeds Capacity
Nordstrom Manhole	0.1090	0.51157	0.6643	0.15273	0.43	No
Site 1 Manhole – Brea Mall Parking Lot	0.2194	0.62197	0.2259	-0.39607	>1	**Yes**
Site 2 Manhole – State College Boulevard[1]	0.2548	0.65737	0.5343	-0.12307	0.57	No
Site 3 Manhole – State College Boulevard	1.8224	2.22497	4.1287	1.90373	0.44	No
Site 1 Upstream Manhole – Brea Mall /State College Boulevard	0.2804	0.68297	0.2630	-0.41997	>1	**Yes**
Site 4 Manhole – State College Boulevard / Park	1.3170	2.74957	4.9404	2.19083	0.45	No

Source raSmith 2019

[1] The downstream 8-in pipe at the Site 2 can convey the sewer flows observed during this study plus the proposed project's flows. The flows identified are based on conservative assumptions based on the average levels and velocities observed during the monitoring study. The downstream 18-in pipes have adequate capacity for the proposed projects since the d/D for the sewer flows observed during this study plus the proposed project flow would not exceed the d/D limit of 0.64 at either site.

The proposed project's wastewater flows would ultimately be treated at the OCSD's Plant No. 1, which has a secondary treatment capacity of 170 MGD. The proposed project represents less than 1 percent of the average daily influent for Plant No. 1. There is adequate residual wastewater treatment capacity in the region for project-generated wastewater, and buildout of the proposed project would not require construction of new or expanded wastewater treatment facilities.

Furthermore, the City collects sewer charges to support the operations of the sewer system and needed capital improvements identified in the 2006 Sewer Master Plan. The Sewer Master Plan (2006) identified $15 million in citywide sewer improvements needed over the next 20 years (Brea 2019b). On behalf of the County of Orange, the City of Brea collects Sanitary Sewer Connection fees at the issuance of building permits, which the project applicant would be required to pay, to upgrade and maintain the sewer system.

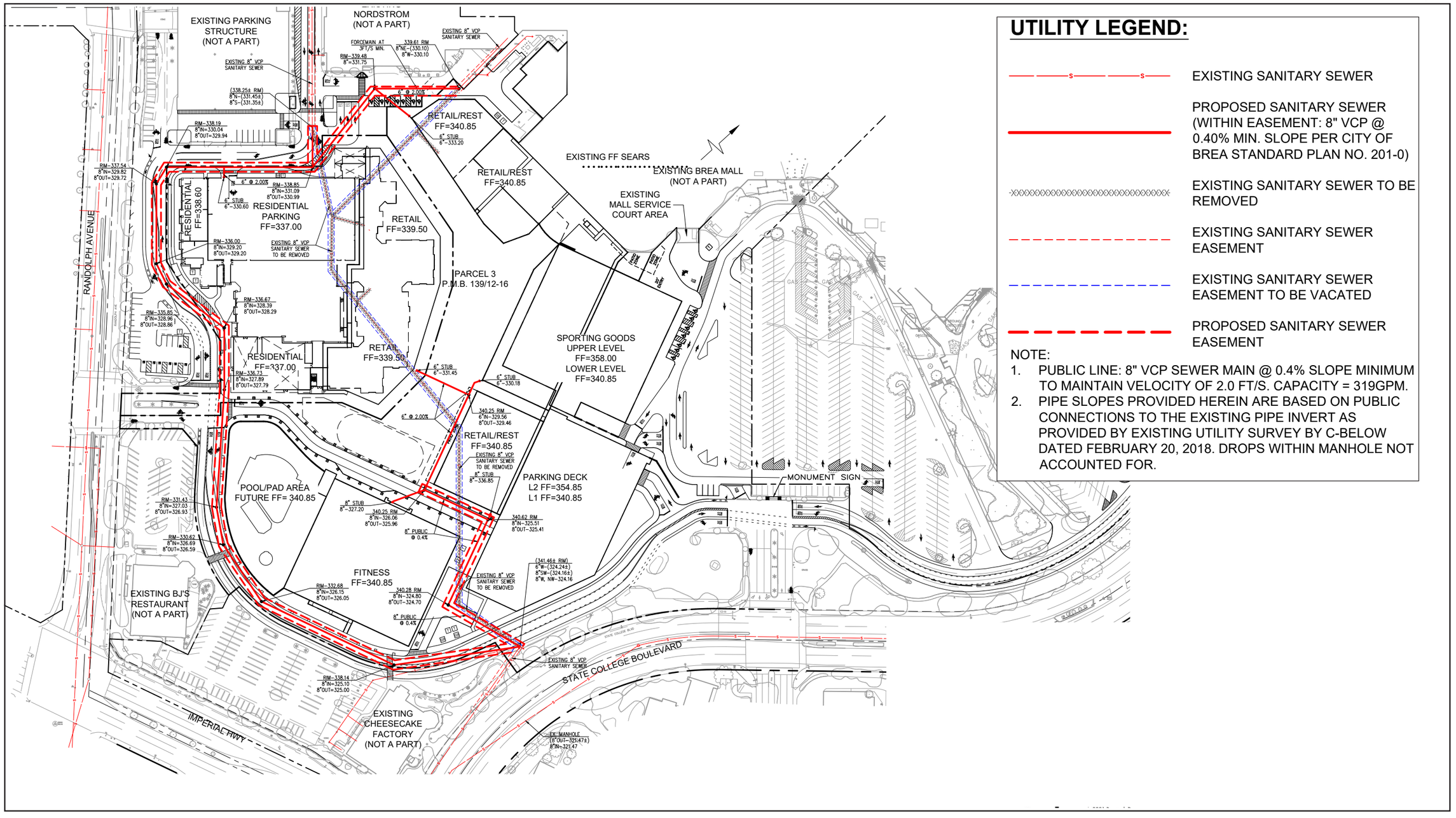
Level of Significance Before Mitigation: Impacts to wastewater treatment systems and sewer infrastructure, Impact 5.14-1, would be less than significant.

5.14.1.5 CUMULATIVE IMPACTS

Wastewater Treatment Capacity Impacts

The area considered for cumulative impacts to sewage services is OCSD, which serves 2.6 million people. Because the proposed project would represent less than 1 percent of the average daily influent of both treatment plants and the secondary treatment capacity of Plant No. 1. OCSD is expected to have adequate wastewater treatment capacity for wastewater generation by cumulative developments in its service area. No significant cumulative impact is anticipated, and buildout of the proposed project would not contribute to a significant cumulative impact.

Figure 5.14-1 - Conceptual Sewer Plan
5. Environmental Analysis



UTILITY LEGEND:

- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER (WITHIN EASEMENT: 8" VCP @ 0.40% MIN. SLOPE PER CITY OF BREA STANDARD PLAN NO. 201-0)
- EXISTING SANITARY SEWER TO BE REMOVED
- EXISTING SANITARY SEWER EASEMENT
- EXISTING SANITARY SEWER EASEMENT TO BE VACATED
- PROPOSED SANITARY SEWER EASEMENT

NOTE:
1. PUBLIC LINE: 8" VCP SEWER MAIN @ 0.4% SLOPE MINIMUM TO MAINTAIN VELOCITY OF 2.0 FT/S. CAPACITY = 319GPM.
2. PIPE SLOPES PROVIDED HEREIN ARE BASED ON PUBLIC CONNECTIONS TO THE EXISTING PIPE INVERT AS PROVIDED BY EXISTING UTILITY SURVEY BY C-BELOW DATED FEBRUARY 20, 2018. DROPS WITHIN MANHOLE NOT ACCOUNTED FOR.

0 150
Scale (Feet)

Source: raSmith, 2019

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Sewer Line Impacts

Implementation of individual projects would require project-specific analyses during final design to evaluate sewer capacities related to the individual project. For regional impacts to OCSD facilities, individual projects would pay Capital Facilities Fee Charges to the OCSD; such fees would reduce cumulative impacts to sewers. Costs for installing and upgrading City of Brea sewers are paid from sewer service fees, and onsite improvements would be implemented as part of the proposed project. Thus, payment of OCSD and City sewer fees would also reduce cumulative impacts to sewers. No cumulatively considerable impact to sewers would occur, and proposed project buildout would not contribute to such an impact.

5.14.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.14-1.

5.14.1.7 MITIGATION MEASURES

No mitigation measures are required.

5.14.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.14.2 Water Supply and Distribution Systems

5.14.2.1 ENVIRONMENTAL SETTING

Regulatory Background

State

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

Senate Bills 610 and 221

To assist water suppliers, cities, and counties in integrating water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and

certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers, cities, and counties. Both require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognized local control and decision making regarding the availability of water for projects and the approval of projects. Future projects subject to SB 610 and SB 221 are required to provide a water supply assessment. Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a]. Under SB 221, approval by a city or county of certain types of residential subdivision requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe to ensure collaboration on finding the needed water supplies to serve a new large subdivision before construction begins.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (SBX7-7), which amends the act and adds new water conservation provisions to the Water Code.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water per year (AFY) should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. Both SB 610 and SB 221 identify the urban water management plan (UWMP) as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes, and they are important source documents for cities and counties as they update their general plans. Conversely, general plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent.

Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water supplies for projects subject to CEQA:

- To meet CEQA's informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built, and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project are built.
- CEQA analysis cannot rely on "paper water." The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely rather than speculative.
- When there is some uncertainty regarding future availability of water, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainty about long-term water supply, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR's approach.
- The EIR does not need to show that water supplies are definitely ensured, because such a degree of certainty would be "unworkable, as it would require water planning to far outpace land use planning." The requisite degree of certainty of a project's water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide a high degree of certainty regarding long-term future water supplies.
- The EIR analysis may rely on existing urban water management plans, as long as the project's demand was included in the water management plan's future demand accounting.
- The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

Local

2009 Water Master Plan

The City of Brea's 2009 Water Master Plan focuses on the existing distribution system and existing water demand. Future demand was not addressed in the study. The general scope of services for the 2009 Water Master Plan included updating the computer model of the City's water distribution system (pipes, pumps, tanks, pressure controls, etc.) and verifying the model against previous model results. The model was used to investigate current problems, issues, or concerns of City staff involved in the operation of the water system. The investigation resulted in development of recommended improvements, for which project costs were provided (Brea 2009).

2015 Urban Water Management Plan

The City of Brea's 2015 UWMP gives the California Department of Water Resources (DWR) a detailed summary of the present and future water resources and demands in the City of Brea's service area and

assesses the City's water resource needs (Brea 2016b). The UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet the existing and future demands. The demand analysis must identify supply reliability under three hydrologic conditions: a normal year, a single-dry year, and multiple-dry years. Brea's 2015 UWMP concluded there was an adequate and reliable supply of water to provide for existing demand and estimated growth through year 2040, based on information then available (Brea 2016b).

Municipal Code

Water Conservation

Chapter 13.20, Water Management Program, of the City's Municipal Code establishes a water conservation and supply shortage program that would reduce water consumption within the City through conservation, enable effective water supply planning, ensure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City to avoid and minimize the effect and hardship of water shortage to the greatest extent possible. The Municipal Code also establishes permanent water conservation standards intended to alter behavior related to water use efficiency for nonshortage conditions, and further establishes three phases of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Water Impact Fees

In July 1995, the Brea City Council adopted Ordinance 967, establishing water impact fees for certain new development projects in Brea and annexed portions of its sphere of influence. In March 2003, the Brea City Council adopted an updated Water Master Plan. Water impact fees were modified according to the updated plan. These fees are necessary to ensure that adequate water infrastructure and facilities are provided to new development projects. The amount of fee per dwelling unit varies depending upon a project's geographical location and elevation.

All new development projects are subject to the Water Impact Fees, except:

- Alterations to an existing building.
- Reconstruction (within two years) when a building has been destroyed by fire, wind, earthquakes, vandalism, or other natural or man-made disasters.
- Additions to a single-family or multiple-family residence and construction of public schools.

Therefore, the proposed project is subject to the water impact fees prior to the issuance of any building permits. In some cases, a developer may be required to make certain water improvements in addition to or in lieu of paying water impact fees. In this case, however, the total cost of water improvements and/or fees would not exceed the development's fair share of providing the water infrastructure or facilities.

Water Connection Fees

Water connection fees are applicable to all new construction, with the charge payable at the time the building permit is issued. This shall apply to each dwelling unit, apartment, mobile home or trailer space, or commercial or industrial water user to be served from the same meter whether constructed at the same time or added onto the existing property.

- $3,129 per 1-inch water meter
- $10,507 per 2-inch water meter

Existing Conditions

The City of Brea owns and operates its potable water system providing service to residential, commercial, industrial, and agricultural customers within the City's boundaries and the City's sphere of influence (Brea 2009). The water system supplies water imported from the Municipal Water District of Orange County and California Domestic Water Company to over 13,000 water connections (Brea 2019a). The City's distribution system consists of 197 miles of pipeline and reservoirs ranging in size 1.25 to 30 million gallons (Brea 2016b). The storage system is supported with four booster stations; the booster pumps have a total capacity of 15,000 gallons per minute serving 17 pressure zones (Brea 2016b).

The City's total water demand in fiscal year 2014-2015 for potable water was 10,733 AFY, where residential water use accounted for 49 percent of the City's water demands and is projected to remain consistent through the 25-year planning horizon (Brea 2016b). According to the 2015 Urban Water Management Plan, water supply and demand would increase from 2020 through 2035, and decrease by 2040, as shown in Table 5.14-4, *Water Supply and Demand Comparison.*

Table 5.14-4 Water Supply and Demand Comparison

	2020	2025	2030	2035	2040
Normal Year (AFY)					
Supply Totals	9,823	10,446	10,461	10,481	10,452
Demand Totals	9,823	10,446	10,461	10,481	10,452
Single and Multiple Dry Years (AFY)					
Supply Totals	10,412	11,073	11,089	11,110	11,079
Demand Totals	10,412	11,073	11,089	11,110	11,079

Source: Brea 2016b.
AFY = acre-feet per year

5.14.2.2 THRESHOLDS OF SIGNIFICANCE

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

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-4 Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

5.14.2.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP USS-3 The project will pay the water impact fees and water connection fees collected by the City of Brea, which cover costs to purchase water supplies and to operate and maintain the water distribution system in accordance with Ordinance 967.

PPP USS-4 Landscaping installed onsite shall conform to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase landscape water efficiency.

PPP USS-5 Plumbing fixtures installed onsite shall conform to California Green Building Standards Code requirements to increase water efficiency and reduce urban per capita water demand.

PPP USS-6 The project would comply with the City's water conservation program during a drought or emergency situation, in accordance with Chapter 13.20, Water Management Program, of the City's Municipal Code.

5.14.2.4 ENVIRONMENTAL IMPACTS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-2: Water supply and delivery systems are adequate to meet project requirements. [Thresholds U-2 (part) and U-4]

The project would result in 312 residential units and a net increase of 149,625 square feet of retail uses (up to 213 employees),[1] which would not generate water demand equivalent to 500 residential units. Additionally, the proposed project would not increase the public water system's existing service connections by 10 percent or more. Therefore, a water supply assessment is not warranted for the proposed project. Table 5.14-5, *Brea Mall Mixed Use Project Estimated Water Demand*, shows the estimated existing and project water demand.

[1] 704 square feet per employee (SCAG 2001) x 149,625 square feet = 212.5 employees = 213 employees.

Table 5.14-5 Brea Mall Mixed Use Project Estimated Water Demand

	Existing Brea Mall		Proposed Brea Mall		Net Change (Proposed Project)	
	Gallons/Day	AFY	Gallons/Day	AFY	Gallons/Day	AFY
Mall	97,817,981	300	99,279,842	305	1,461,861	4
Fitness Center	0	0	7,727,406	24	7,727,406	24
Apartments	0	0	20,761,928	64	20,761,928	64
Total	97,817,981	300	127,769,177	392	29,951,196	92

Source: CalEEMod 2016.3.2 (see Appendix B)
Notes: Totals may not add to 100 percent due to rounding. AFY = acre-feet per year

The proposed project would result in a net increase of 92 AFY of potable water. As shown in Table 5.14-4, the City of Brea's UWMP forecast an increase of 629 AFY between 2020 to 2040. The increase of 92 AFY would represent 14.6 percent of the anticipated increase in water demand forecast for the City. As stated in the 2015 UWMP, the available supply in the City would meet projected demands due to the diversified supply and conservation measures (Brea 2016b). Therefore, the City would be able to meet the water demands of the proposed project in addition to existing and cumulative demands.

The proposed project would require the installation of new and expanded water pipes in order to accommodate the increase in density onsite. Figure 5.14-2, *Conceptual Water Plan,* shows the existing and proposed water lines for the project area. The proposed system would be constructed in accordance with the City's requirements for pipe sizing, flows, pressure, and flow duration (i.e., fire flow protection). Furthermore, the City has established water rates to cover costs to purchase water supplies and to operate and maintain the water distribution system.

Level of Significance Before Mitigation: Impact 5.14-2, impacts to water facilities and supplies, would be less than significant.

5.14.2.5 CUMULATIVE IMPACTS

The City of Brea has adequate water supplies to support planned developments in the City. The available water supply will meet the projected demand of the City due to conservation measures and diversified supply. As described above, the City would be able to meet the water demands of the proposed project in addition to existing and cumulative demands. Therefore, the proposed project would not result in a significant impact to water supplies and treatment facilities, individually or cumulatively.

5.14.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.14-2.

5.14.2.7 MITIGATION MEASURES

No mitigation measures would be required.

5.14.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.14.3 Storm Drainage Systems

5.14.3.1 ENVIRONMENTAL SETTING

Regulatory Background

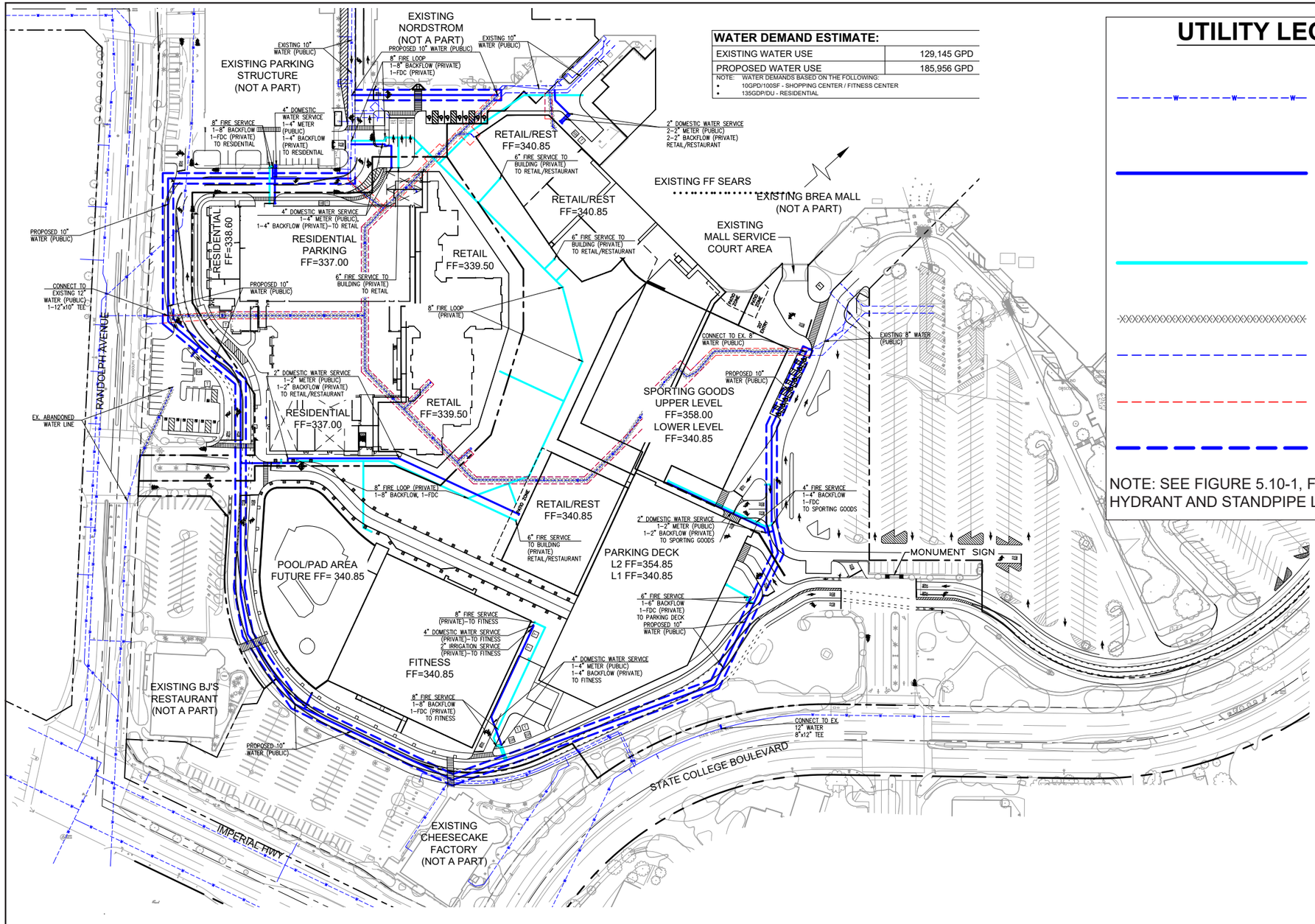
Regional

Municipal Stormwater (MS4) Permit

The project area lies within the jurisdiction of Santa Ana Regional Water Quality Control Board (Region 8) and is subject to the waste discharge requirements of the North Orange County Municipal Separate Sewer (MS4) Permit (Order No. R8-2009-0030) and NPDES Permit No. CAS618030, as amended by Order No. R8-2010-0062. The County of Orange, incorporated cities of Orange County, and the Orange County Flood Control District are co-permittees under the MS4 Permit. Pursuant to the MS4 Permit, the co-permittees were required to develop and implement a drainage area management plan as well as local implementation plans, which describe urban runoff management programs for the local jurisdictions. The City of Brea, as a permittee under the General MS4 permit, has legal authority for enforcing the terms of the permit in its jurisdiction.

The General MS4 Permit requires that new development or significant redevelopment projects use best management practices (BMP), including site design planning, source control, and treatment techniques, to ensure that the water quality of receiving waters is protected. These requirements are detailed in the Orange County Model Water Quality Management Plan (WQMP) and supplemental Technical Guidance Document, updated December 2013, which the City of Brea has incorporated into its project approval processes. In the project area, any new development project or significant redevelopment project (i.e., adding 5,000 or more square feet of impervious surface) is required to prepare a WQMP that specifies the BMPs and low-impact development (LID) measures that would be implemented to minimize the effects of the project on regional hydrology, runoff flow rates and/or velocities, and pollutant loads. LID is a stormwater management strategy that emphasizes conservation and use of existing site features integrated with stormwater controls that are designed to mimic natural hydrologic patterns, and minimizes runoff by reducing the elements of development that produce it. An Operations and Maintenance Plan must also be included as part of the WQMP and must designate terms, conditions, and requirements for maintaining the BMPs in perpetuity.

Figure 5.14-2 - Conceptual Water Plan
5. Environmental Analysis



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Scale (Feet)

Source: raSmith, 2019

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The County of Orange regulates storm runoff and water quality as the principal permittee under the General MS4 Permit and the drainage area management plan. The City of Brea is a co-permittee under the General MS4 Permit and has legal authority for enforcing the terms of the permit in its jurisdiction. The drainage area management plan includes a New Development and Significant Redevelopment program. This program incorporates watershed protection and stormwater quality management principles into the general plan process, environmental review process, and development permit approval process. The New Development and Significant Redevelopment program includes a model WQMP that defines requirements for project-specific planning, selection, and incorporation of BMPs into new development or redevelopment projects.

Stormwater Program: Trash Implementation Program

On April 7, 2015, the State Water Resources Control Board adopted an amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to control trash and Part 1, Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan). Together, they are collectively referred to as the "Trash Amendments." The Trash Amendments include six elements: (1) water quality objectives, (2) applicability of amendments, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements. Following adoption, the Trash Amendments were submitted to both the California Office of Administrative Law (OAL) and the U.S. Environmental Protection Agency (EPA) for review and approval. The OAL approved the Trash Amendments on December 2, 2015. The EPA approved the Trash Amendments on January 12, 2016.

The Trash Amendments apply to all Phase I and II permittees under the NPDES municipal separate storm sewer systems (MS4) permits who retain regulatory authority over Priority Land Uses. The State Water Resources Control Board Executive Director sent separate 13383 Orders to traditional and nontraditional Small MS4 permittees on June 1, 2017. Regional Water Quality Control Boards, as the permitting authority, issued to their Phase I permittees either Water Code 13383 or 13267 orders that contain region-specific requirements, which may differ from the State Water Resources Control Board orders.

The Trash Amendments apply to all surface waters of the state and prohibit the discharge of trash to surface waters of the state as well as the depositing of trash where it may be discharged into surface waters of the state. Priority land uses are developed sites that include high density residential (10 or more dwelling units/acre); industrial; commercial; mixed urban; public transportation stations and stops; alternative areas determined by the permittees; and other areas determined by the state.

Local

2013 Master Plan of Drainage

The Master Plan of Drainage identifies existing drainage deficient facilities that are not in conformance with current design practices. These capacity deficient facilities may contribute to localized flooding in the future. The Master Plan of Drainage recommends drainage improvements to reduce or eliminate existing deficiencies within the City's storm drain system. The recommended drainage improvements are ranked from higher to lower risk for failure or localized flooding, and have budget level cost figures for each ranked segment.

City of Brea Municipal Code Chapter 13.32, Storm Water Drainage

This chapter establishes the prohibition on illicit connections and prohibited discharges, control of urban runoff, inspections of storm water drains, enforcement of regulations pertaining to storm water drainages, and permits for discharge.

Existing Conditions

Five separate drainage areas (Orange County Watersheds) overlie the City and adjacent areas; storm runoff from these areas and the City flows into OCFD facilities of Coyote Creek, Imperial Creek, Brea Creek, Fullerton Creek, and Carbon Creek (Brea 2013). Four of these regional drain facilities conduct runoff flows southwesterly to the Coyote Creek Channel (along the County's western boundary); the fifth regional drain, Carbon Creek, carries drainage south through the Carbon Canyon diversion channel to the Santa Ana River (Brea 2013). The City's storm drainage system is made up of 53.5 miles of pipe, ranging in size from 8 inches to 78 inches, and there are 1,076 sewer mains and junction structures (Brea 2013). According to the 2013 Master Plan of Drainage, 6.9 percent of the existing storm drain pipes have exceeded design capacity for conveying storm water runoff produced by a 10-year design storm event (Brea 2013).

5.14.3.2 THRESHOLDS OF SIGNIFICANCE

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

U-3 Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.14.3.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP USS-7 The project will be constructed and operated in accordance with the Santa Ana Regional Water Quality Control Board Municipal Stormwater (MS4) Permit for Orange County. The MS4 Permit requires the proposed project to prepare and implement a WQMP to:

- Control release of contaminants into storm drain systems.
- Educate the public about stormwater impacts.
- Detect and eliminate illicit discharges.
- Control runoff from construction sites.
- Implement BMPs and site-specific runoff controls and treatments.

5.14.3.4 ENVIRONMENTAL IMPACTS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project. [Threshold U-3]

The project area is developed with the existing mall, surface and structure parking, and ornamental vegetation within the surface parking area. Under the proposed conditions, pervious surfaces would increase because the proposed project would include 40,318 square feet of landscaped areas, and the proposed residential building would include 19,211 square feet of private open space and 25,712 square feet of common open space.

There are two existing storm drain pipes that run through the expansion area and discharge near the Randolph Avenue driveway. The pipe heading south (west of the existing Nordstrom parking structure) is an 18-inch reinforced concrete pipe. The pipe running in a southwest direction is a 36-inch reinforced concrete pipe. Because of the location of the proposed retail and residential buildings, the proposed project would require relocation and upsizing of the onsite storm drainage system. Figure 5.14-3, *Conceptual Storm Drain Plan,* shows the existing and proposed storm drain lines for the project area. The existing 36-inch pipe would be re-routed through the new ring road alignment and would connect with the existing 18-inch pipe. Additionally, a new 36-inch high density polyethylene "bypass" pipe would be installed and would follow the alignment of the existing 18-inch pipe running southerly, just west of the proposed residential building. Table 5.14-6, *Existing and Proposed Storm Drain Flow*s, shows that there would be a reduction of impervious surfaces under the proposed project.

Table 5.14-6 Existing and Proposed Storm Drain Flows

	Existing Q100 (cfs)	Project Q100 (cfs)	Change (cfs)
Combined Flows to the Public Storm Drain	85.61	81.55	-4.06

Source: RaSmith 2019a.
Note that the redeveloped condition is also assuming 100 percent impervious area, and has not taken into account the additional storage volume provided by the proposed Chamber System.

The proposed project would include structural and nonstructural BMPs that would further reduce volumes and rates of runoff. Due to the reduction in impervious surfaces and the implementation of BMPs, runoff rates are anticipated to be reduced below existing condition rates. As indicated in Section 8.4.c.i, *Hydrology and Water Quality,* a portion of runoff would be treated from the existing parking lot in lieu of the disturbed area, and the remainder of the existing parking lot runoff would be captured via a proposed valley gutter that would drain to a new inlet and bypass the proposed chamber system.

Level of Significance Before Mitigation: Impact 5.14-3, impacts to stormwater drainage, would be less than significant.

5.14.3.5 CUMULATIVE IMPACTS

Cumulative impacts are considered for the five separate drainage areas (Orange County Watersheds) that overlie the City. Storm runoff from the City flows into OCFS facilities of Coyote Creek, Imperial Creek, Brea Creek, Fullerton Creek, and Carbon Creek. Other projects in the watershed may increase the amount of impervious surfaces in the watershed and therefore may increase flow rates and volumes of runoff entering storm drains in the region. Other projects in the watershed would be required by MS4 permits to be sized and designed to ensure onsite retention of the volume of runoff produced from a 24-hour, 85th percentile storm event, which is similar to a two-year storm. Other impacts to storm drainage would be analyzed in separate CEQA processing for each cumulative project, and mitigation measures would be required as appropriate to minimize significant impacts.

5.14.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.14-3.

5.14.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.14.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.14.4 Solid Waste

5.14.4.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California Green Building Standards Code

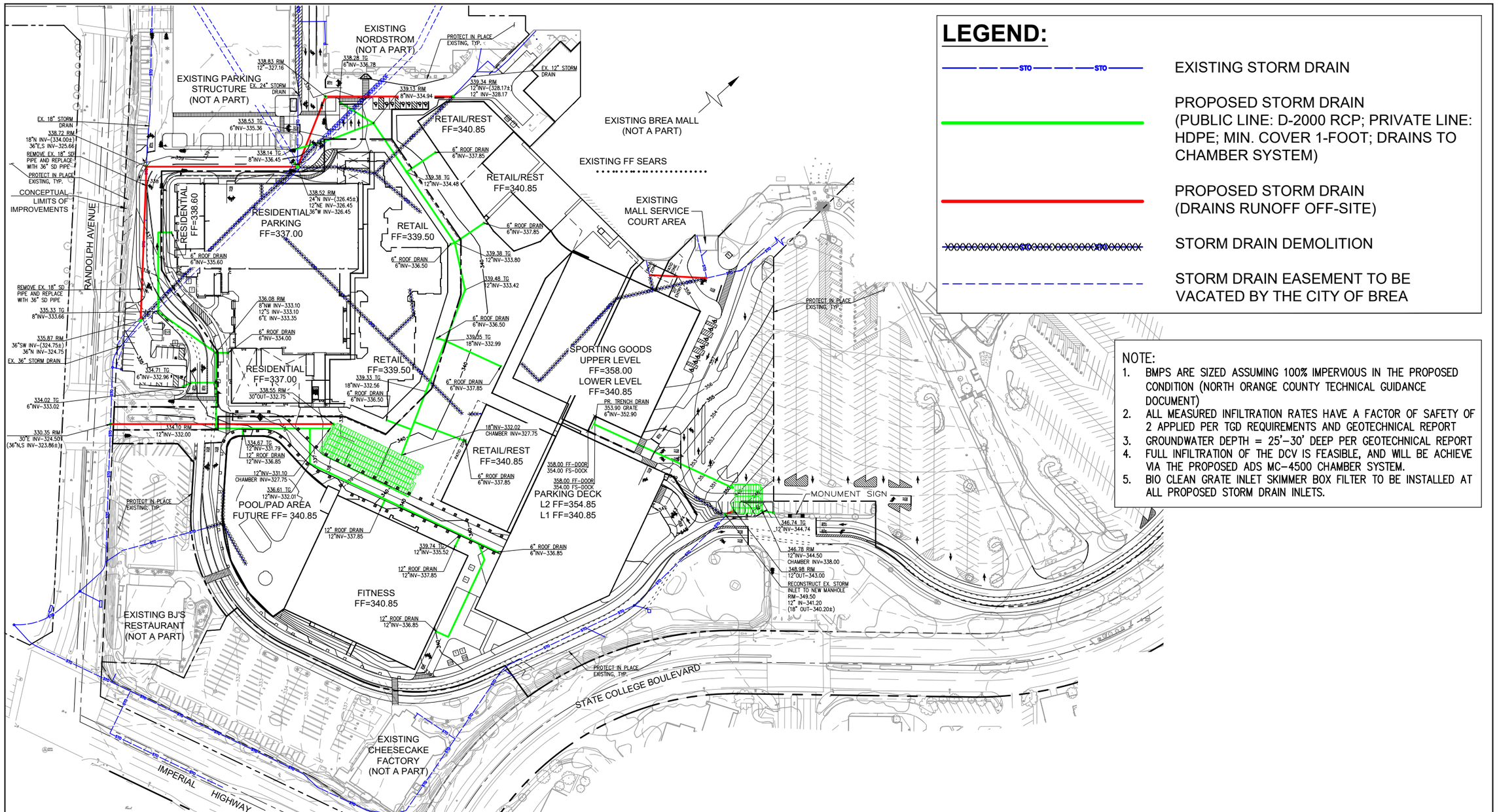
Section 5.408 of the 2013 California Green Building Standards Code (California Code of Regulations Title 24, Part 11) requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 939 – Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

Figure 5.14-3 - Conceptual Storm Drain Plan

5. Environmental Analysis



Source: raSmith, 2019

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AB 342

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Local

City of Brea Municipal Code Chapter 8.28, Solid Waste Collection and Salvage of Recyclable Materials

This chapter is intended to assist in the implementation of the City's Source Recovery and Recycling Element, which was prepared pursuant to the California Integrated Waste Management Act. This chapter provides various solid waste-related requirements, such as hours of collection, solid waste removal and collection, and recyclable material and green waste collection services.

City of Brea Municipal Code Chapter 8.29, Construction and Demolition Waste Management

The purpose of this chapter is to reduce landfill waste by requiring an applicant for every covered project to divert a minimum of 50 percent of the construction and demolition debris resulting from that project, in compliance with state and local statutory goals and policies, and to create a mechanism to secure compliance with the diversion requirements.

Existing Conditions

Solid Waste Collection

The City of Brea contracts with Republic Services for trash and recycling services. In 2018, the latest year for which data were available, 71,772 tons of solid waste and 8,848 tons of alternative daily cover[2] from the City were landfilled (CalRecycle 2019a).

Landfills

In 2018, 96.5 percent of solid waste landfilled from the City of Brea was disposed at Olinda Alpha landfill in the City, which is owned and operated by OC Waste and Recycling. Olinda Alpha landfill has a daily maximum throughput of 8,000 tons per day, a remaining capacity of 34,200,000 cubic yards, and an estimated cease date of December 31, 2021 (CalRecycle 2019b).

Landfills are required to comply with existing landfill regulations from federal, state, and local regulatory agencies. They are subject to regular inspections from CalRecycle and the local enforcement agencies, the Santa Ana Regional Water Quality Control Board, and the South Coast Air Quality Management District.

Solid Waste Diversion and Recycling

As of 2017, the latest year for which data are available, there were 47 solid waste diversion programs in the City of Brea, including those for composting, household hazardous waste collection, public education programs, recycling, source reduction at businesses and schools, and special waste materials such as tires and concrete/asphalt/rubble (CalRecycle 2019c).

Compliance with the diversion requirement in AB 939 is measured in part by comparing actual disposal rates with target disposal rates; disposal rates at or below target rates are consistent with AB 939. For 2015, the latest year for which data were approved, the target disposal rates for Brea were 11.50 pounds per day (ppd) per resident and 10.10 ppd per employee; actual disposal rates in 2015—8.50 ppd per resident and 7.60 ppd per employee—were below target rates and thus were consistent with AB 939 (CalRecycle 2019d).

5.14.4.2 THRESHOLDS OF SIGNIFICANCE

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

U-6 Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

U-7 Would not comply with federal, state, and local statutes and regulations related to solid waste.

[2] Alternative daily cover means cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.

5.14.4.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

PPP USS-8 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). Construction contractors are required to submit a construction waste management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvage for future use or sale and the amount (by weight or volume).

PPP USS-9 The project will abide by AB 341 and AB 1826. The project will store and collect recyclable materials in compliance with AB 341. Green waste will be handled in accordance with AB 1826.

5.14.4.4 ENVIRONMENTAL IMPACTS

The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-4: Existing and/or proposed facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations. [Thresholds U-6 and U-7]

The proposed project would generate an increase in solid waste disposal. Table 5.14-7, *Brea Mall Mixed Use Project Estimated Solid Waste Disposal*, provides an estimate of the solid waste generated by the proposed project. The proposed project would generate an increase of 4,875 pounds per day (lbs/day) and 890 tons per year of solid waste (2.4 tons per day). The Olinda Alpha Landfill would accept waste from the proposed project; the Olinda Alpha landfill has maximum daily throughput of 8,000 tons per day (16,000,000 pounds per day). The increase in solid waste generated from the proposed project would represent approximately 0.03 percent of the maximum daily throughput. The increase in solid waste disposal would be accommodated by the landfill's remaining capacity.

Table 5.14-7 Brea Mall Mixed Use Project Estimated Solid Waste Disposal

	Existing Brea Mall		Proposed Brea Mall		Net Change (Proposed Project)	
	Lbs/Day	Tons/Yr	Lbs/Day	Tons/Yr	Lbs/Day	Tons/Yr
Mall[1]	7,430	1,356	7,555	1,379	124	23
Fitness[1]	0	0	3,998	730	3,998	730
Residential[2]	0	0	753	137	753	137
Total	7,430	1,356	12,305	2,246	4,875	890

Notes: Numbers may not add to 100 percent due to rounding.
Lbs = pounds
[1] Source: CalEEMod 2016.3.2. (see Appendix B)
[2] Residential solid waste disposal of 55.6 cubic yards per week provided by the Applicant.

Additionally, the proposed project would comply with solid waste disposal requirements, including requirements to divert solid waste to landfills through recycling. During construction, the proposed project would comply with CALGreen, which requires recycling and/or salvaging for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). During operation, the proposed project would comply with AB 341 and AB 1826, which require commercial and multifamily residential land uses to have recycling and organic waste recycling.

Level of Significance Before Mitigation: Impact 5.14-4 would be less than significant.

5.14.4.5 CUMULATIVE IMPACTS

Cumulative impacts are considered for Orange County, the service area for OC Waste and Recycling, which owns and operates the Olinda Alpha landfill. The Olinda Alpha landfill has a daily maximum throughput of 8,000 tons per day, a remaining capacity of 34,200,000 cubic yards, and an estimated cease date of December 31, 2021. There is adequate landfill capacity to accommodate the existing and future projects in the City. No significant cumulative impact to landfill capacity would occur, and the proposed project would not contribute to a significant cumulative impact.

5.14.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.14-4.

5.14.4.7 MITIGATION MEASURES

No mitigation measures are required.

5.14.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.14.5 References

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6. Significant Unavoidable Adverse Impacts

At the end of Chapter 1, *Executive Summary*, is a table that summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

Transportation

- **Impact 5.12-1.** Mitigation Measure TRAF-1 would require that Caltrans and the City coordinate to identify improvements along Imperial Highway to reduce the project's direct and indirect impacts. The TIA identified several infrastructure and signal timing improvements that would offset the project's impact at the intersections of #16 – Harbor Boulevard at Imperial Highway, #18 – Brea Boulevard at Imperial Highway, #19 – Randolph Avenue at Imperial Highway, #20 – State College Boulevard at Imperial Highway, #22 – SR-57 NB Ramps at Imperial Highway, and #23 – Associated Road at Imperial Highway (see Table 5.12-22, *Project Peak Hour Intersection Capacity Analysis With Mitigation – HCM,* and Table 5.12-23, *Project Peak Hour Intersection Capacity Analysis With Mitigation – IUC*). However, the installation of these improvements is subject to the approval of Caltrans. Caltrans does not have any mechanisms by which projects can contribute fair share fees to offset impacts. Since the proposed project cannot guarantee that these improvements under the jurisdiction of Caltrans will be implemented and there are currently no mechanism by which Caltrans can collect fair share payments toward these improvements, Impact 5.12-1 would be **Significant and Unavoidable**.

- **Impact 5.12-3.** Traffic (both Brea Mall-related and commuter related) has the potential to block through lane traffic at State College Boulevard at Imperial Highway. Additionally, Caltrans has identified that the intersection of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway have elevated incidence of collisions compared to the state average. These collisions are due to vehicles making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway. Safety at the intersection #20, State College Boulevard and Imperial Highway, could be improved by via modifying the SR-57 SB on-ramp to allow for two lanes onto the freeway and signal upgrades to enhance safety. No correctable conditions were identified for the intersection #19, Randolph Avenue at Imperial Highway . Since the proposed project cannot guarantee that the improvements identified above would be implemented by Caltrans and/or collect fair share payments toward these improvements, Impact 5.12-3 would be **Significant and Unavoidable**.

6. Significant Unavoidable Adverse Impacts

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7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines § 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (15126.6[b])

- "The specific alternative of 'no project' shall also be evaluated along with its impact." (15126.6[e][1])

- "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (15126.6[e][2])

- "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." (15126.6[f])

- "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 (or the site is already owned by the proponent)" (15126.6[f][1]).

- "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." (15126.6[f][2][A])

- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." (15126.6[f][3])

For each development alternative, this analysis:

- Describes the alterative.
- Analyzes the impact of the alternative as compared to the proposed project.
- Identifies the impacts of the project that would be avoided or lessened by the alternative.
- Assesses whether the alternative would meet most of the basic project objectives.
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, "[i]f an alternative would cause…significant effects in addition those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

7.1.2 Project Objectives

As described in Section 3.3, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

1. Revitalize the Sears parcel following closure of the Sears anchor with commercial uses and higher quality amenities to reinforce the Class "A" position of Brea Mall by developing housing, retail, fitness, and open space areas proximate to Brea Downtown and other commercial and retail uses; thereby, putting it on-par with the top tier of newer high quality mixed-use environments in the broader Los Angeles and Orange County markets.

2. Redevelop the Sears parcel and surface parking lot to create an outdoor village setting with more pedestrian-oriented amenities by creating a mix of uses, including housing, retail, fitness, and open space areas.

3. Invigorate the project site with the spirit and intent of the City's General Plan vision by developing a mix of uses that would, because of their respective peak hours, not concentrate traffic and parking at the same time.

4. Provide additional opportunities for residential growth on infill and underutilized parcels near the Brea Transit Center.

5. Improve the jobs-housing balance in the City of Brea and provide new housing within close proximity to jobs and services.

6. Promote healthy living and physical activity by providing open space areas and opportunities to utilize alternative transportation options available proximate to the site, including the Brea Mall Transit Center and bike/pedestrian trails.

7.1.3 Significant Impacts of the Project

The following significant and unavoidable impacts are identified in Chapter 5, *Environmental Analysis*, of this Draft EIR (DEIR):

- **Impact 5.12-1.** Mitigation Measure TRAF-1 would require that Caltrans and the City coordinate to identify improvements along Imperial Highway to reduce the project's direct and indirect impacts. The TIA identified several infrastructure and signal timing improvements that would offset the project's impact at the intersections of #16 – Harbor Boulevard at Imperial Highway, #18 – Brea Boulevard at Imperial Highway, #19 – Randolph Avenue at Imperial Highway, #20 – State College Boulevard at Imperial Highway, #22 – SR-57 NB Ramps at Imperial Highway, and #23 – Associated Road at Imperial Highway (see Table 5.12-22, *Project Peak Hour Intersection Capacity Analysis With Mitigation – HCM,* and Table 5.12-23, *Project Peak Hour Intersection Capacity Analysis With Mitigation – IUC*). However, the installation of these improvements is subject to the approval of Caltrans. Caltrans does not have any mechanisms by which projects can contribute fair share fees to offset impacts. Since the proposed project cannot guarantee that these improvements under the jurisdiction of Caltrans will be implemented and there are currently no mechanism by which Caltrans can collect fair share payments toward these improvements, Impact 5.12-1 would be **Significant and Unavoidable**.

- **Impact 5.12-3.** Traffic (both Brea Mall-related and commuter-related) has the potential to block through lane traffic at State College Boulevard at Imperial Highway. Additionally, Caltrans has identified that the intersection of Randolph Avenue at Imperial Highway and State College Boulevard at Imperial Highway have elevated incidence of collisions compared to the state average. These collisions are due to vehicles making erratic lane changes to try and enter the SR-57 SB on-ramp along Imperial Highway. Safety at the intersection #20, State College Boulevard and Imperial Highway, could be improved by via modifying the SR-57 SB on-ramp to allow for two lanes onto the freeway and signal upgrades to enhance safety. No correctable conditions were identified for the intersection #19, Randolph Avenue at Imperial Highway. Since the proposed project cannot guarantee that the improvements identified above would be implemented by Caltrans and/or collect fair share payments toward these improvements, Impact 5.12-3 would be **Significant and Unavoidable**.

7.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this EIR.

7.2.1 Alternative Development Areas

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any

of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines § 15126[5][B][1]). Key factors in evaluating the feasibility of potential offsite locations for EIR project alternatives include:

- If it is in the same jurisdiction.
- Whether development as proposed would require a General Plan Amendment.
- Whether the project applicant could reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). (CEQA Guidelines Section 15126.6[f][1]).

The project applicant does not own or control other comparably sized and located property proximate to Brea Downtown. While the project requires the approval of a General Plan Amendment, Zone Change, and lot line adjustment, objectives for the project include providing housing and employment opportunities proximate to Brea Downtown and Brea Mall and commercial uses on an underutilized parcel.

In general, any development of the size and type proposed by the project would have substantially the same impacts on aesthetics, air quality, cultural and paleontological resources, energy, greenhouse gas emissions, land use and planning, noise, population and housing, public services, recreation, transportation, tribal cultural resources, and utilities and service systems. With the exception of transportation impacts, these impacts were found to be less than significant or significant with mitigation incorporated.

It was determined, therefore, that it is unlikely that there is an alternative project site that could potentially meet the objectives of the proposed project and reduce significant impacts of the project as proposed.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following three alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in the following sections.

- No Project Alternative
- Reduced Retail Intensity Alternative
- No Residential Alternative
- Reduced Density Residential Alternative

An EIR must identify an "environmentally superior" alternative and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5 of this DEIR. This chapter provides a comparative analysis, by impact, for each of the alternatives. A conclusion with respect to an environmentally superior alternative is provided in Section 7.7.

Alternatives Comparison

The following statistical analysis provides a summary of general socioeconomic buildout projections determined by the four land use alternatives, including the proposed project. It is important to note that these are not growth projections. That is, they do not anticipate what is likely to occur by a certain time horizon, but provide a buildout scenario that would only occur if all the areas of the City were to develop to the probable capacities yielded by the land use alternatives. The following statistics were developed as a tool to understand better the difference between the alternatives analyzed in the DEIR. Table 7-1, *Buildout Statistical Summary,* identifies City-wide information regarding dwelling unit, population and employment projections, and also provides the jobs to housing ratio for each of the alternatives.

Table 7-1 Buildout Statistical Summary

	No Project Alternative	Proposed Brea Mall	Reduced Retail Intensity Alternative	No Residential Alternative	Reduced Density Residential Alternative
Dwelling Units	0	**312**	312	0	195
Non-Residential Square Footage	1,291,433	**1,441,058**	1,366,246	1,468,400	1,441,058
Population	0	**565**	565	0	353
Employment[1]	1,834	**2,047**	1,941	2,086	2,047
Jobs-to-Housing Ratio (Citywide)[2]	1.41	**1.52**	1.51	1.55	1.53
Vehicle Trips					
Weekday Daily Trips	30,817	**34,957**	32,298	35,119	34,853
Weekday AM Peak Hour Trips	757	**1,072**	901	997	1,032
Weekday PM Peak Hour Trips	3,247	**3,671**	3,407	3,700	3,663

Notes:
[1] 704 employees/employee assumed for alternatives (SCAG 2001).
[2] There are 15,616 dwelling units in the City (2017) and 22,086 jobs in the City (2019); refer to Chapter 5.9, *Population and Housing,* of this DEIR.

7.3.1 NO PROJECT ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this Alternative is also based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted and no development would occur onsite. The project site would remain as the existing Brea Mall, and the existing Sears building would be leased; therefore, there would be no residential development or an increase in commercial square footage nor any associated residents or an increase in employees. Table 7-2, *No Project Alternative Buildout Statistical Summary,* compares the buildout statistical summary of the proposed project with the No Project Alternative.

Table 7-2 No Project Alternative Buildout Statistical Summary

	Proposed Brea Mall	No Project Alternative
Dwelling Units	312	0
Commercial Square Footage	1,313,058	1,291,433
Lifetime Fitness Center Square Footage	128,000	0
Population	565	0
Employment[1]	2,047	1,834
Jobs-to-Housing Ratio (Citywide)[2]	1.52	1.41

Notes:
[1] 704 employees/employee assumed for alternatives (SCAG 2001).
[2] There are 15,616 dwelling units in the City (2017) and 22,086 jobs in the City (2019); refer to Chapter 5.9, Population and Housing, of this DEIR.

7.3.1.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, the No Project Alternative would not impact a scenic vista or scenic resources in the City. Under the No Project Alternative, no new development would occur on the project site. Therefore, the existing visual character and resources near and on the project site would be preserved in their current state. Given that no development would occur, no new sources of light and glare would be generated either.

Although impacts to aesthetics are inherently subjective, the proposed project would improve the project site with updated buildings and facades, as well as with a central green and plaza area, and associated landscaping. Therefore, it is concluded that the aesthetic impact for the No Project Alternative would be greater than the proposed project. As with the proposed project, aesthetic impacts would be considered less than significant.

7.3.1.2 AIR QUALITY

Under this Alternative, no new development would occur; therefore, no new construction activities and associated exhaust and fugitive dust emissions would occur. Without the proposed project, the project site would not result in an increase in an increase in vehicle trips and slight increase in building energy use. Therefore, the No Project Alternative would eliminate regional and localized air quality impacts during construction and operation compared to the proposed project. However, the proposed project would not result in any significant and unavoidable air quality impacts. Nevertheless, air quality impacts under this alternative would be eliminated compared to the proposed project.

7.3.1.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Under the No Project Alternative, no grading and excavation activities would occur at the project site. Accordingly, this Alternative would not result in the potential to impact archaeological and paleontological resources during ground-disturbing activities. Since no development would occur, there would be no potential damage to cultural and paleontological resources. Impacts would be eliminated compared to the proposed project.

7.3.1.4 ENERGY

The No Project Alternative would not generate a temporary increase in energy and fuel use during construction activities and would not generate a long-term increase in fuel use and energy during project operation. Therefore, no impact would occur under this Alternative. Compared to the proposed project, energy impacts would be eliminated.

7.3.1.5 GREENHOUSE GAS EMISSIONS

The No Project Alternative would not generate an increase in greenhouse gas (GHG) emissions from construction activities, or additional GHG emissions from operational activities from existing conditions. Therefore, no impact to GHG emissions would occur under this Alternative. Impacts associated with this Alternative would be eliminated and would be less than significant.

7.3.1.6 HAZARDS AND HAZARDOUS MATERIALS

Under this Alternative, no new development would occur onsite. Hazards to the public or environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials during construction activities, as a result of the proposed project would not occur. Impacts of the proposed project were found to be less than significant with mitigation incorporated; impacts of this Alternative would be eliminated compared to the proposed project.

7.3.1.7 LAND USE AND PLANNING

Unlike the proposed project, the No Project Alternative would not require a General Plan Amendment, Zone Change, or lot line adjustment. While the proposed project would require a zone change, the proposed project would not conflict with policies and zoning that would result in substantial physical impacts to the environment. Because retaining the site as the existing Brea Mall would not require a General Plan Amendment, Zone Change, or lot line adjustment, this Alternative would eliminate impacts of the proposed project but as with the proposed project, would be less than significant.

7.3.1.8 NOISE

Under the No Project Alternative, the project site would remain as the existing Brea Mall and would not introduce additional long-term traffic or stationary noise sources onsite. Additionally, this Alternative would eliminate construction-related noise impacts. No short-term construction noise impacts or new long-term operational noise impacts would occur under this Alternative. Therefore, compared to the proposed project, this Alternative would eliminate impacts and would remain less than significant.

7.3.1.9 POPULATION AND HOUSING

The No Project Alternative would not introduce new residents or additional employees to the project site, and therefore, would not directly impact population growth in the City. However, this Alternative would not create new employment opportunities or increase housing units in the City of Brea. Like the proposed project, the No Project Alternative would not displace housing or people. Under both scenarios, impacts to population and

housing would be less than significant. However, since the No Project Alternative would not achieve some of the beneficial impacts of the proposed project related to housing and employment opportunities, the impacts of the No Project Alternative are considered greater than the proposed project but would remain less than significant.

7.3.1.10 PUBLIC SERVICES

The No Project Alternative would not increase demand for fire, police, school, and library services and facilities in the City. Impacts for the proposed project, however, are less than significant. Impacts would be eliminated compared to the proposed project and would be less than significant.

7.3.1.11 RECREATION

No new development would occur under this Alternative, and the project site would remain as the existing Brea Mall. Therefore, potential impacts to recreation would not occur. Although the No Project Alternative would not generate a demand for parks, it would not provide the onsite recreational benefits planned for the proposed project. Despite the beneficial impact of the project, impacts would be eliminated compared to the proposed project, but would remain less than significant.

7.3.1.12 TRANSPORTATION

As described in Section 5.12, *Transportation,* the proposed project would result in a significant and unavoidable impact to Imperial Highway as the proposed mitigation is within Caltrans' jurisdiction. While the EIR considered potential mitigation measures that would reduce impacts for the intersections within the jurisdictional authority of Caltrans, the installation of the improvements on Imperial Highway are subject to the approval of Caltrans. Additionally, Caltrans does not have any mechanisms by which projects can contribute to fair share fees to offset impacts. Under this Alternative, the project site would not generate an increase in vehicle trips or vehicle miles traveled (VMT). This Alternative would eliminate the proposed project's significant and unavoidable impact on transportation compared to the proposed project. Therefore, this Alternative would eliminate the project's transportation impact; and this Alternative would substantially reduce impacts compared to the proposed project.

7.3.1.13 TRIBAL CULTURAL RESOURCES

The project site would remain in its existing conditions under the No Project Alternative. Therefore, no ground-disturbing activities would occur, and tribal cultural resources onsite would not be affected. Impacts would be eliminated compared to the proposed project, which found impacts to be less than significant with mitigation incorporated.

7.3.1.14 UTILITIES AND SERVICE SYSTEMS

No new development would occur on the project site under this Alternative. Therefore, there would be no increase in demand for potable water, wastewater generation, or solid waste disposal. Overall, impacts would be eliminated in comparison to the proposed project, but would remain less than significant.

7.3.1.15 CONCLUSION

The No Project Alternative would lessen the proposed project's insignificant environmental impacts in the areas of air quality, cultural and paleontological resources, energy, greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, recreation, tribal cultural resources, and utilities and service systems. This Alternative would increase impacts to aesthetics and population and housing. This alternative would avoid the project's significant transportation impact to Caltrans' facilities.

The No Project Alternative would retain the site in its current state, as the existing Brea Mall. Therefore, none of the project objectives would be achieved under this Alternative. The No Project Alternative would not provide any of the project benefits that would occur with implementation of the proposed project including increasing the number of residential units based on regional growth projections (Objectives, 1, 2, and 4) and would not generate an increase in employment opportunities in the City. Residential uses have different peak hour travel characteristics than retail uses; and therefore, this Alternative would not meet Objective 3. This Alternative would not improve the City's jobs-housing balance (Objective 5). This Alternative would also not provide any public benefits associated with the creation of the onsite open space areas onsite (Objective 6).

7.3.2 REDUCED RETAIL INTENSITY ALTERNATIVE

The Reduced Retail Intensity Alternative would result in a 50 percent reduction of commercial square footage from the proposed project. Table 7-3, *Reduced Retail Intensity Alternative Buildout Statistical Summary,* compares the buildout statistical summary of the Reduced Retail Intensity Alternative.

Table 7-3 Reduced Retail Intensity Alternative Buildout Statistical Summary

	Proposed Brea Mall	Reduced Retail Intensity Alternative	Net Change Compared to the Proposed Project
Dwelling Units	312	312	0
Mall Square Footage	1,313,058	1,331,246	18,188
Fitness Center Square Footage	128,000	35,000	-93,000
Total Commercial Square Footage	1,441,058	1,366,246	-74,812
Population	565	565	565
Employment[1]	2,047	1,941	-106
Jobs-to-Housing Ratio (Citywide)[2]	1.52	1.51	NA

[1] 704 employees/employee assumed for alternatives (SCAG 2001).
[2] There are 15,616 dwelling units in the City (2017) and 22,086 jobs in the City (2019); refer to Chapter 5.15-9, *Population and Housing,* of this DEIR.

This Alternative would result in demolition of the 161,990 square foot former Sears building and subsequent construction of 236,803 square feet of non-residential buildings, a smaller three-story retail parking structure, and the 312-unit residential building and parking structure. This Alternative assumes that instead of development of a lifestyle fitness center, a smaller one-story 35,000 fitness center would be developed on the southern portion of the expansion area. Additionally, a two story addition to the mall would include the 50,019 square foot sporting goods store plus 151,784 square feet of retail uses. No changes to the residential component or the central green and plaza would occur under this Alternative. As a result, this Alternative would

result in a net increase of 74,813 square feet of commercial square footage and 312 dwelling units from existing conditions.

7.3.2.1 AESTHETICS

Impacts associated with aesthetics include degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, this Alternative would not impact a scenic vista or scenic resources in the City. Impacts associated with this Alternative would be similar to the proposed project because new development would occur on the project site. However, the massing of the retail, fitness center, and retail parking structure west of State College Boulevard would be reduced, resulting in heights similar to the surrounding buildings. Although the retail intensity and parking structure would be reduced, the City's development standards and design guidelines would continue to apply. Therefore, impacts would be similar to the proposed project and would be less than significant.

7.3.2.2 AIR QUALITY

This Alternative would reduce air quality impacts during construction and operational phases, as development under this Alternative would result in slightly less building vertical building construction and associated emissions during this phase; however, the same area would be disturbed so peak daily emissions generated during soil disturbance would be similar under this alternative. During the operational phase, this Alternative would generate 2,659 fewer weekday vehicle trips and generate less emissions from building energy use. Consequently, this Alternative would reduce long-term operational air quality emissions of the project. This Alternative would reduce air quality impacts compared to the proposed project, and impacts would be less than significant with mitigation incorporated.

7.3.2.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Implementation of this Alternative could uncover cultural and paleontological resources during grading activities. Both this Alternative and the proposed project would require mitigation in the event cultural and paleontological resources are uncovered during grading. Therefore, impacts would be similar compared to the proposed project, and would be less than significant upon implementation of mitigation measures.

7.3.2.4 ENERGY

This Alternative would result in a reduction in building energy compared to the proposed project. As described above, during the operational phase of this Alternative, would generate 2,659 fewer weekday vehicle trips and associated fuel use. In addition, the smaller buildings would not require as much electricity and natural gas for building cooling and heating needs; therefore, this Alternative would reduce energy demands. During construction the smaller buildings would also require slightly less fuel as the vertical building construction phase would be shortened. Impacts would be reduced compared to the proposed project and would be less than significant.

7.3.2.5 GREENHOUSE GAS EMISSIONS

As described above, during the operational phase this Alternative would generate 2,659 fewer weekday vehicle trips. In addition, the smaller buildings would not require as much electricity and natural gas for the Alternative's cooling and heating needs. This Alternative would generate less GHGs from building energy, indoor water/wastewater, and solid waste disposal. GHG from construction activities would be similar to the proposed project despite the smaller size, because peak emissions occur during grading activities. Impacts associated with this Alternative would be reduced compared to the proposed project and would be less than significant.

7.3.2.6 HAZARDS AND HAZARDOUS MATERIALS

This Alternative would require the use of hazardous materials during construction. However, similar to the proposed project, construction activities such as fuels, paints, and solvents would be used in limited quantities and would not pose a significant safety hazard. Additionally, this Alternative would disturb soil on the project site; similar to the proposed project, hazards to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials during construction activities could occur and would require mitigation to ensure less than significant impacts. Operations of the commercial and residential uses on the project site would use similar hazardous materials (cleaning solvents, etc.) as the proposed project. Therefore, impacts would be similar to the proposed project, and would be less than significant with mitigation incorporated.

7.3.2.7 LAND USE AND PLANNING

Both the proposed project and this Alternative would require a General Plan Amendment, Zone Change, and lot line adjustment. No physical impacts relating to land use and planning to the environment were identified for the proposed project. Compared to the proposed project, this Alternative would result in similar impacts; impacts would be less than significant.

7.3.2.8 NOISE

This Alternative proposes a reduced retail intensity and therefore construction noise impacts would be reduced under this Alternative. The operational phase of this Alternative would generate 2,659 fewer weekday vehicle trips and would slightly reduce operational traffic-related noise impacts. Noise impacts of this Alternative would be reduced compared to the proposed project, and would be less than significant.

7.3.2.9 POPULATION AND HOUSING

This Alternative would result in the same number of residents, but would generate fewer employees (1,941 employees). Similar to the proposed project, this Alternative would not displace housing or people as development would occur within the footprint of the project site. This Alternative would reduce impacts compared to the proposed project and would be less than significant.

7.3.2.10 PUBLIC SERVICES

This Alternative would generate approximately 1,941 employees and 565 residents at the project site. This Alternative would be required to pay development impact fees and comply with applicable regulations and standard conditions to ensure that impacts related to public services are less than significant. This Alternative is anticipated to generate fewer service calls and would have a reduced demand for public services compared to the proposed project; impacts would be less than significant.

7.3.2.11 RECREATION

Under this Alternative, the open space areas would be provided on the project site, similar to the proposed project. Therefore, impacts to recreational facilities would be similar to the proposed project, and impacts would be less than significant.

7.3.2.12 TRANSPORTATION

As shown in Table 7-4, *Reduced Retail Intensity Alternative Trip Generation Comparison*, this Alternative would result in eight percent fewer weekday daily trips, 16 percent fewer weekday AM peak hour trips, and seven percent fewer weekday PM peak hour trips compared to the proposed project. Additionally, construction-related traffic would be expected to be less than the proposed project due to the reduced retail square footage, as a result of the reduction in intensity compared to the proposed project. Despite the substantial decrease in peak hour traffic generated under this Alternative, it is anticipated that this Alternative would continue to contribute to congestion on Imperial Highway, which is a Caltrans facility. Therefore, while this Alternative would reduce impacts compared to the proposed project, impacts would remain significant and unavoidable.

Table 7-4 Reduced Retail Intensity Alternative Trip Generation Comparison

Trip Generation	Weekday Daily Trips Total	Weekday AM Peak Hour Total	Weekday PM Peak Hour Total
Existing Brea Mall	30,817	757	3,247
Proposed Brea Mall	34,957	1,072	3,671
Reduced Retail Intensity Alternative	**31,348**	**791**	**3,331**
Change from Existing	1,481	144	160
Change from Project	**-2,659**	**-171**	**-264**

Source: LLG 2019.

7.3.2.13 TRIBAL CULTURAL RESOURCES

Implementation of this Alternative could uncover tribal cultural resources during grading and ground disturbing activities. Therefore, potential tribal cultural resources impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7.3.2.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would generate less water, wastewater, and solid waste compared to the proposed project. Utilities and service systems would be reduced compared to the proposed project, and would be less than significant.

7.3.2.15 CONCLUSION

The Reduced Retail Intensity Alternative would lessen the proposed project's insignificant environmental impacts in the areas of air quality, energy, greenhouse gas emissions, noise, population and housing, and public services. This Alternative would result in similar impacts as the proposed project to aesthetics, cultural and paleontological resources, hazards and hazardous materials, land use and planning, recreation, tribal cultural resources, and utilities and service systems. This Alternative would reduce but would not eliminate the project's significant and unavoidable transportation impact to Caltrans facilities.

The Reduced Retail Intensity Alternative would result in a reduction of the retail component of the project and generate 106 fewer employees compared to the proposed project. Therefore, this Alternative would meet the project objectives but to a lesser extent than the proposed project.

7.3.3 NO RESIDENTIAL ALTERNATIVE

Unlike the proposed project, this Alternative would not result in the construction of the 312 dwelling units, and therefore, a General Plan Amendment and Zone Change from Major Shopping Center Zone (C-C) to Mixed Use I (MU-I) would not be required. This alternative would result in similar commercial square footage allowed under the 1987 Development Agreement, which was 1,468,400 square feet. This Alternative, like the proposed project, would result in an increase in commercial square footage but 565 fewer residents and 39 additional employees. The residential portion of the project would be restriped and utilized for surface parking. Table 7-5, *No Residential Alternative Buildout Statistical Summary,* compares the buildout statistical summary of the proposed project with the No Residential Alternative.

Table 7-5 No Residential Alternative Buildout Statistical Summary

	Proposed Brea Mall	No Residential Alternative	Net Change Compared to the Proposed Project
Dwelling Units	312	0	-312
Mall Square Footage	1,313,058	1,340,400	0
Fitness Center Square Footage	128,000	128,000	0
Total Commercial Square Footage	1,441,058	1,468,400	
Population	565	0	-656
Employment[1]	2,047	2,086	39
Jobs-to-Housing Ratio (Citywide)[2]	1.52	1.55	NA

[1] 704 employees/employee assumed for alternatives (SCAG 2001).
[2] There are 15,616 dwelling units in the City (2017) and 22,086 jobs in the City (2019); refer to Chapter 5.9, *Population and Housing,* of this DEIR.

7.3.3.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, this Alternative would not impact a scenic vista or scenic resources in the City. Impacts associated with this Alternative would be similar to the proposed project as new development and landscaping would be proposed. However, this Alternative would not include the residential component of the proposed project, thereby reducing the number of structures onsite, compared to the proposed project. Like the proposed project, this Alternative would be required to comply with development standards and design guidelines. Therefore, impacts would be similar to the proposed project and would be less than significant.

7.3.3.2 AIR QUALITY

Development of only the retail component would require a shorter construction duration and would not require excavation for the residential only parking garage. Therefore, peak construction emissions would be less than the proposed project. During the operational phase, this Alternative would result in 162 more weekday vehicle trips as well as an increase in building energy emissions. Consequently, this Alternative would slightly increase long-term operational air quality emissions compared to the proposed project. Therefore, this Alternative would result in slightly higher air quality impacts but would be less than significant with mitigation incorporated.

7.3.3.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Implementation of the proposed project could uncover cultural resources during grading activities. Both this Alternative and the proposed project would require mitigation in the event cultural resources are uncovered during grading. Therefore, impacts would be similar to the proposed project and would be less than significant with the implementation of mitigation.

7.3.3.4 ENERGY

This Alternative would result in a decrease in building energy use from the loss of the residential component of the project. Additionally, this Alternative would generate 162 more weekday vehicle trips. Construction activities associated with this Alternative would also have reduced energy demands associated with the slightly shorter construction duration. Impacts would be slightly higher compared to the proposed project, and would be less than significant.

7.3.3.5 GREENHOUSE GAS EMISSIONS

As described above, during the operational phase of this Alternative would generate 162 more weekday vehicle trips and more emissions from building energy use, indoor water use/wastewater generation, and solid waste disposal. Construction activities associated with this Alternative would have reduced GHG emissions due to the shorter construction duration. Therefore, this Alternative would result in a slightly higher GHG emissions. Therefore, compared to the proposed project, this Alternative would have slightly higher impacts; impacts would be less than significant.

7.3.3.6 HAZARDS AND HAZARDOUS MATERIALS

This Alternative would require the use of hazardous materials during construction. However, similar to the proposed project, construction materials such as fuels, paints, and solvents would be used in limited quantities and would not pose a significant safety hazard. Additionally, this Alternative would disturb soil on the project site. Therefore, similar to the proposed project, hazards to the public or environment through foreseeable upset and accident conditions involving the release of hazardous materials during construction activities could occur and would require mitigation to ensure less than significant impacts. Like the proposed project, compliance with regulations and guidelines of federal, state, and local agencies for the use, handling, storage, and transport of hazardous materials would be required, and would ensure impacts are less than significant. Impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7.3.3.7 LAND USE AND PLANNING

As this Alternative would not include the residential component, a General Plan Amendment, Zone Change, and lot line adjustment would not be required. While the proposed project would require a zone change, the proposed project would not conflict with policies and zoning that would result in substantial physical impacts to the environment. Because the increase in commercial square footage would not require a General Plan Amendment, Zone Change, or lot line adjustment, this Alternative would reduce impacts of the proposed project and would be less than significant.

7.3.3.8 NOISE

Implementation of this Alternative would not include the residential component and therefore, construction noise would be reduced. The operational phase of this Alternative would generate 162 more weekday vehicle trips and would slightly increase operational traffic-related noise impacts. Noise impacts of this Alternative would be slightly higher compared to the proposed project and would be less than significant.

7.3.3.9 POPULATION AND HOUSING

Similar to the proposed project, this Alternative would not displace housing or people. However, this alternative would exacerbate the City's jobs-housing balance by providing more employment opportunities without providing housing opportunities. Under this Alternative, approximately 2,086 employees would be generated. As this Alternative would not include the residential component, impacts would be slightly greater compared to the proposed project but impacts would be less than significant.

7.3.3.10 PUBLIC SERVICES

Residential uses generate a higher demand for emergency service calls (e.g., police, fire) and school demand than nonresidential land uses. This Alternative would be required to pay development impact fees and comply with applicable regulations and standard conditions to ensure that impacts related to public services are less than significant. This Alternative would result in a reduced demand for public services compared to the proposed project, and impacts would be less than significant.

7.3.3.11 RECREATION

This Alternative would result in a reduced demand for recreational facilities, as residential uses generate higher demands. This Alternative would provide the central green and plaza amenities on the project site. Compared to the proposed project, this Alternative would reduce impacts compared to the proposed project and would be less than significant.

7.3.3.12 TRANSPORTATION

As shown in Table 7-6, *No Residential Alternative Trip Generation Comparison*, this Alternative would result in one percent increase in weekday daily trips and weekday PM peak hour trips, but 9 percent weekday AM peak hour trips compared to the proposed project. Moreover, construction-related traffic would be expected to be less than the proposed project due to the elimination of the residential component of the proposed project. Although this Alternative would result in a decrease in peak hour traffic compared to the proposed project, it is anticipated that this Alternative would continue to contribute to congestion on Imperial Highway, which is a Caltrans facility. Therefore, while this Alternative would reduce impacts compared to the proposed project, impacts would remain significant and unavoidable.

Table 7-6 No Residential Alternative Trip Generation Comparison

Trip Generation	Weekday Daily Trips Total	Weekday AM Peak Hour Total	Weekday PM Peak Hour Total
Existing Brea Mall	30,817	757	3,247
Proposed Brea Mall	34,957	1,072	3,671
No Residential Alternative	**35,119**	**977**	**3,700**
Change from Existing	4,302	220	453
Change from Project	**162**	**-95**	**29**

Source: LLG 2019.

7.3.3.13 TRIBAL CULTURAL RESOURCES

Implementation of this Alternative could uncover tribal cultural resources during grading activities. Therefore, potential tribal cultural resources impacts would be similar compared to the proposed project and would be less than significant with mitigation incorporated.

7.3.3.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would generate less demands for water, and would generate less wastewater and solid waste compared to the proposed project. Utilities and service systems impacts would be reduced compared to the proposed project and would be less than significant.

7.3.3.15 CONCLUSION

This Alternative would lessen the proposed project's insignificant environmental impacts in the areas of land use and planning, public services, recreation, and utilities and service systems. This Alternative would result in similar impacts to aesthetics, cultural and paleontological resources, hazards and hazardous materials, and tribal cultural resources. This alternative would result in slightly higher environmental impacts to air quality, energy, greenhouse gas emissions, noise, and population and housing. This Alternative would reduce but would not eliminate the project's significant and unavoidable transportation impact to Caltrans facilities.

This Alternative would not develop the residential component of proposed project. Therefore, this Alternative would not achieve the project objectives, including increasing housing units in the City (Objectives 2 and 4) or improve the jobs-housing balance (Objective 5). This Alternative would meet Objective 1 because the Sears property would be redeveloped, but to a lesser extent than the proposed project. Additionally, Residential uses have different peak hour travel characteristics than retail uses; and therefore, this Alternative would not meet Objective 3. This Alternative would meet Objective 6, as the central green and plaza and additional retail would be constructed near the Brea Transit Center.

7.3.4 REDUCED DENSITY RESIDENTIAL ALTERNATIVE

The residential density range for development in the Mixed Use I (MU- I) zone is 12.1 to 50 units per acre and the maximum allowed FAR is 3.00. The proposed project's seven story residential building on the 3.91-acre site is 80 units per acre; however, the MU-I zone allows for dwelling units-per-acre density to be applied to the project area rather than an individual parcel. Therefore, when averaged over the two proposed MU-I parcels, which total 38.91 acres, the residential averages at 8.0 units per acre.[1] This Alternative would limit the residential density on the proposed 3.91 acre MU-I parcel to 50 units per acre, which is 195 units, and would result in a density of 5.0 units per acre across the two proposed MU-I parcels. As a result, this Alternative would result in 117 fewer dwelling units and 212 fewer residents compared to the proposed project, or a 37.5 percent reduction in residential density. No changes to the non-residential component of the project are proposed. The Reduced Density Residential Alternative would result in a smaller residential parking structure and would be five stories tall rather than seven stories tall. Table 7-7, *Reduced Density Residential Alternative Buildout Statistical Summary,* compares the buildout statistical summary of the proposed project and the Reduced Density Residential Alternative.

[1] 312 units / 38.91-acre MU-I parcels = 8.0 units per acre. (35.00 acres + 3.91 acres= 38.91 acres, from Table ES-3)

Table 7-7 Reduced Density Residential Alternative Buildout Statistical Summary

	Proposed Brea Mall	Reduced Density Residential Alternative	Net Change Compared to the Proposed Project
Dwelling Units	312	195	117
Commercial Square Footage	1,313,058	1,313,058	0
Fitness Center Square Footage	128,000	128,000	0
Population	565	353	-212
Employment[1]	2,047	2,047	0
Jobs-to-Housing Ratio (Citywide)[2]	1.52	1.53	NA

[1] 704 employees/employee assumed for alternatives (SCAG 2001).
[2] There are 15,616 dwelling units in the City (2017) and 22,086 jobs in the City (2019); refer to Chapter 5.9, *Population and Housing,* of this DEIR.

7.3.4.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, this Alternative would not impact a scenic vista or scenic resources in the City. Impacts associated with this Alternative would be similar to the proposed project as new development and landscaping would be proposed. Although the residential density would be reduced, the City's development standards and design guidelines would continue to apply. Therefore, impacts would be similar to the proposed project and would be less than significant.

7.3.4.2 AIR QUALITY

This Alternative would reduce air quality impacts during construction and operational phases. Development under this Alternative would result in 195 dwelling units instead of 312 dwelling units. As a result, construction emissions associated with the vertical construction phase would be less than the proposed project. During the operational phase, this Alternative would generate 104 fewer weekday vehicle trips. Additionally, building energy use associated with the residential component of the project would be slightly reduced. Consequently, this Alternative would slightly reduce long-term operational air quality emissions of the project. This Alternative would reduce air quality impacts compared to the proposed project, and impacts would be less than significant with mitigation incorporated.

7.3.4.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Implementation of the proposed project could uncover cultural resources during grading activities. Both this Alternative and the proposed project would require mitigation in the event cultural resources are uncovered during grading. Therefore, impacts would be similar to the proposed project and would be less than significant with the implementation of mitigation.

7.3.4.4 ENERGY

This Alternative would result in a slight decrease in building energy use. As described above, during the operational phase of this Alternative would generate 104 fewer weekday vehicle trips. Construction activities associated with this Alternative would have reduced energy demands associated with a shorter duration during

the vertical construction phase of the residential building component. Impacts would be slightly reduced compared to the proposed project, and would be less than significant.

7.3.4.5 GREENHOUSE GAS EMISSIONS

As described above, this Alternative would generate 104 fewer weekday vehicle trips. Building energy use, indoor water use/wastewater generation, and solid waste disposal would also be slightly less for the residential component compared to the proposed project. Construction emissions during the vertical building phase of the residential component would also be slightly reduced because of a slight decrease in the construction duration. Therefore, this Alternative would result in a slight reduction in construction and operational GHG emissions. Therefore, compared to the proposed project, this Alternative would have slightly reduced impacts; impacts would be less than significant.

7.3.4.6 HAZARDS AND HAZARDOUS MATERIALS

This Alternative would require the use of hazardous materials during construction. However, similar to the proposed project, construction materials such as fuels, paints, and solvents would be used in limited quantities and would not pose a significant safety hazard. Additionally, this Alternative would disturb soil on the project site. Therefore, similar to the proposed project, hazards to the public or environment through foreseeable upset and accident conditions involving the release of hazardous materials during construction activities could occur and would require mitigation to ensure less than significant impacts. Like the proposed project, compliance with regulations and guidelines of federal, state, and local agencies for the use, handling, storage, and transport of hazardous materials would be required, and would ensure impacts are less than significant. Impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7.3.4.7 LAND USE AND PLANNING

Both the proposed project and this Alternative would require a General Plan Amendment, Zone Change, and lot line adjustment. No physical impacts to the environment were identified for the proposed project. Under this Alternative, the maximum allowed density of the Mixed Use I zone, 50 units per acre, would be used instead of the proposed project's 80 units per acre. Compared to the proposed project, this Alternative would result in reduced impacts; impacts would be less than significant.

7.3.4.8 NOISE

This Alternative would result in a reduction in residential density; and therefore, construction noise impacts would be slightly reduced under this Alternative. The operational phase of this Alternative would generate 104 fewer weekday vehicle trips and would reduce operational traffic-related noise impacts. Noise impacts of this Alternative would be slightly reduced compared to the proposed project and would be less than significant.

7.3.4.9 POPULATION AND HOUSING

Similar to the proposed project, this Alternative would not displace housing or people. Under this Alternative, approximately 2,047 employees and 353 residents would be generated. This alternative provides fewer housing

opportunities for the new jobs it creates. This Alternative would have slightly greater impacts compared to the proposed project and would be less than significant.

7.3.4.10 PUBLIC SERVICES

Residential uses generate a higher demand for emergency service calls (e.g., police, fire) and school demand than nonresidential land uses. This Alternative would generate 212 fewer residents compared to the proposed project; this Alternative would be required to pay development impact fees and comply with applicable regulations and standard conditions to ensure that impacts related to public services are less than significant. This Alternative would result in a reduced demand for public services compared to the proposed project, and impacts would be less than significant.

7.3.4.11 RECREATION

This Alternative would result in a reduced demand for recreational facilities, as residential uses generate higher demands. This Alternative would provide the central green and plaza amenities on the project site. Compared to the proposed project, this Alternative would reduce impacts compared to the proposed project, due to the reduction in residential density, and would be less than significant.

7.3.4.12 TRANSPORTATION

As shown in Table 7-8, *Reduced Density Residential Alternative Trip Generation Comparison*, this Alternative would result in less than one percent fewer weekday daily trips and weekday PM peak hour trips, but four percent weekday AM peak hour trips compared to the proposed project. Moreover, construction-related traffic would be expected to be less than the proposed project due to this reduction. Despite the decrease in peak hour traffic generated under this Alternative, it is anticipated that this Alternative would continue to contribute to congestion on Imperial Highway, which is a Caltrans facility. Therefore, while this Alternative would nominally reduce impacts compared to the proposed project, impacts would remain significant and unavoidable.

Table 7-8 Reduced Density Residential Alternative Trip Generation Comparison

Trip Generation	Weekday Daily Trips Total	Weekday AM Peak Hour Total	Weekday PM Peak Hour Total
Existing Brea Mall	30,817	757	3,247
Proposed Brea Mall	34,957	1,072	3,671
Reduced Density Residential Alternative	**34,853**	**1,032**	**3,663**
Change from Existing	4,036	275	416
Change from Project	**-104**	**-40**	**-8**

Source: LLG 2019.

7.3.4.13 TRIBAL CULTURAL RESOURCES

Implementation of this Alternative could uncover tribal cultural resources during grading activities. Therefore, potential tribal cultural resources impacts would be similar compared to the proposed project and would be less than significant with mitigation incorporated.

7.3.4.14 UTILITIES AND SERVICE SYSTEMS

This Alternative would generate less demands for water, and would generate less wastewater and solid waste compared to the proposed project due to the reduction in residential density. Utilities and service systems impacts would be reduced compared to the proposed project and would be less than significant.

7.3.4.15 CONCLUSION

This Alternative would lessen the project's insignificant environmental impacts in the areas of air quality, energy, greenhouse gas emissions, land use and planning, noise, public services, recreation, and utilities and service systems. This Alternative would result in similar impacts to aesthetics, cultural and paleontological resources, hazards and hazardous materials, and tribal cultural resources. This alternative would have slightly higher population and housing impacts compared to the proposed project. This alternative would nominally reduce the project's significant and unavoidable transportation impact to Caltrans facilities.

This Alternative would develop fewer residential units in order to achieve a density of 50 units per acre on the 3.91-acre parcel. Therefore, this Alternative would meet the project objectives but to a lesser extent than the proposed project.

7.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. One alternative has been identified as "environmentally superior" to the proposed project:

- Reduced Retail Intensity Alternative

The Reduced Retail Intensity Alternative has been identified as the environmentally superior alternative because it would lead to the greatest reduction in vehicle trips (see Table 7-1) and associated transportation impacts, although it would not eliminate the project's significant transportation impact. As shown in Table 7-9, *Summary of Impacts of Alternatives Compared to the Proposed Project*, and Table 7-10, *Ability of Each Alternative to Meet the Project Objectives,* this Alternative lessens impacts to air quality, energy, greenhouse gas emissions, land use and planning, noise, population and housing, public services, and transportation, while achieving the benefits of the project objectives, to a lesser extent.

7. Alternatives to the Proposed Project

Table 7-9 Summary of Impacts of Alternatives Compared to the Proposed Project

Topic	Proposed Project	No Project Alternative	Reduced Retail Intensity Alternative	No Residential Alternative	Reduced Density Residential Alternative
Aesthetics	LTS	+	=	=	=
Air Quality	LTS/M	—	—	+	—
Cultural and Paleontological Resources	LTS/M	—	=	=	=
Energy	LTS	—	—	+	—
Greenhouse Gas Emissions	LTS	—	—	+	—
Hazards and Hazardous Materials	LTS/M	—	=	=	=
Land Use and Planning	LTS	—	=	—	—
Noise	LTS	—	—	+	—
Population and Housing	LTS	+	—	+	+
Public Services	LTS	—	—	—	—
Recreation	LTS	—	=	—	—
Transportation	S/U	—*	—	—	—
Tribal Cultural Resources	LTS/M	—	=	=	=
Utilities and Service Systems	LTS	—	=	—	—

Notes: LTS = Less than Significant; LTS/M = Less than Significant with Mitigation Incorporated; S/U = Significant and Unavoidable
(*) The alternative would eliminate an impact of the proposed project and impacts would be substantially reduced
(—) The alternative would result in less of an impact than the proposed project.
(+) The alternative would result in greater impacts than the proposed project.
(=) The alternative would result in the same/similar impacts as the proposed project.

Table 7-10 Ability of Each Alternative to Meet the Project Objectives

Objective	Proposed Project	No Project Alternative	Reduced Retail Intensity Alternative	No Residential Alternative	Reduced Density Residential Alternative
1. Revitalize the Sears parcel following closure of the Sears anchor with commercial uses and higher quality amenities to reinforce the Class "A" position of Brea Mall by developing housing, retail, fitness, and open space areas proximate to Brea Downtown and other commercial and retail uses; thereby, putting it on-par with the top tier of newer high quality mixed-use environments in the broader Los Angeles and Orange County markets.	Yes	No	Yes, but to a lesser extent	Yes, but to a lesser extent	Yes, but to a lesser extent
2. Redevelop the Sears parcel and surface parking lot to create an outdoor village setting with more pedestrian-oriented amenities by creating a mix of uses, including housing, retail, fitness, and open space areas.	Yes	No	Yes, but to a lesser extent	No	Yes, but to a lesser extent
3. Invigorate the project site with the spirit and intent of the City's General Plan vision by developing a mix of uses that would, because of their respective peak hours, not concentrate traffic and parking at the same time.	Yes	No	Yes	No	Yes, but to a lesser extent
4. Provide additional opportunities for residential growth on infill and underutilized parcels near the Brea Transit Center.	Yes	No	Yes	No	Yes, but to a lesser extent
5. Improve the jobs-housing balance in the City of Brea and provide new housing within close proximity to jobs and services.	Yes	No	Yes	No	Yes, but to a lesser extent
6. Promote healthy living and physical activity by providing open space areas and opportunities to utilize alternative transportation options available proximate to the site, including the Brea Mall Transit Center and bike/pedestrian trails.	Yes	No	Yes	Yes	Yes

7.5 REFERENCES

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8. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: "…it is the policy of the state that…[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [environmental impact report] shall identify and focus on the significant environmental impacts of the proposed project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment." Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the Draft EIR.

Impacts to agriculture and forestry resources, biological resources, geology and soils (except paleontological resources), hydrology and water quality, mineral resources, wildfire were determined to be less than significant during scoping for the EIR. The following sections provide the thresholds of significance and a brief analysis supporting the determination of no impact or less than significant impacts. Threshold letters correspond to the lettering in Appendix G of the CEQA Guidelines.

8.1 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB). Would the project:

Would the project:

a) 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. The project area has no agricultural or farm use on it, nor is there agricultural or farm use in its immediate proximity. No project-related farmland conversion impact would occur. The project area is zoned C-C Major Shopping Center Zone, with a P-D Precise Development overlay, and is developed with an

existing mall (Brea 2019a). The project area is listed as Urban and Built-up Land and is not mapped as important farmland by the Division of Land Resource Protection (DLRP 2014). Therefore, no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The zoning designation for the project area is C-C Major Shopping Center Zone, with a P-D Precise Development overlay. The proposed project would not conflict with agricultural zoning or a Williamson Act contract because it is not zoned for agricultural use. Williamson Act contracts restrict the use of privately-owned land to agriculture and compatible open space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. Since the project area is zoned for C-C Major Shopping Center Zone with a P-D Precise Development overlay and is developed with an existing mall, there is no Williamson Act contract in effect onsite. Therefore, no impact would occur.

c) 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. Project development would not conflict with existing zoning for forest land, timberland, or timberland production. 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 PRC § 12223 [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 PRC § 4526). The project area is zoned C-C Major Shopping Center Zone, with a P-D Precise Development overlay, and is currently developed with an existing mall. Therefore, no impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Vegetation on-site is limited to ornamental vegetation throughout the parking lot. Project construction would not result in the loss or conversion of forest land. Therefore, no impact would occur.

e) 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 non-forest use?

No Impact. Maps from the Division of Land Resource Protection indicate that there is no important farmland or forest land on the project area or in the surrounding vicinity. Project development would not indirectly cause conversion of such land to nonagricultural or nonforest use. Therefore, no impact would occur.

8.2 BIOLOGICAL RESOURCES

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact. The project area is paved and developed with an existing mall. Vegetation of the site is limited to ornamental trees and ground cover in the parking lot. The project area is frequently disturbed by movements of vehicles and people. There is no native habitat and no habitat suitable for sensitive species on-site. Any use of the site by sensitive species would be incidental foraging, which does not constitute habitat use. Impacts would be less than significant.

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

No Impact. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies, are known to provide habitat for sensitive animal or plant species, or are known to be important wildlife corridors. Riparian habitats occur along the banks of rivers and streams. The project area is fully paved and developed with an existing mall; no sensitive natural community or riparian habitat is present on-site, and no impact would occur.

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

No Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include playas, ponds, and wet meadows; lakes and reservoirs; rivers, streams, and canals; estuaries; and beaches and rocky shores (SCWRP 2018). According to the National Wetlands Mapper, there are no wetlands on the project area (USFWS 2019). The project area is paved and developed with an existing mall. No impact would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. There are several ornamental trees onsite, scattered throughout the parking lot which could be used for nesting by birds protected under the California Fish and Game Code Sections 3503 et seq. California law, particularly relevant statutes in the Fish and Game Code (FGC), provide protections for birds and their active nests by prohibiting the:

8. Impacts Found Not to Be Significant

- Take a bird, mammal, fish, reptile, or amphibian (FGC § 2000).
- Take, possess, or needlessly destroy the nest or eggs of any bird (FGC § 3503).
- Take, possess, or destroy any bird of prey in the orders Strigiformes (owls) and Falconiformes (such as falcons, hawks and eagles) or the nests or eggs of such bird (FGC § 3503.5).
- Take or possess any of the 13 fully protected bird species listed in FGC § 3511.
- Take any nongame bird (i.e., bird that is naturally occurring in California that is not a game bird, migratory game bird, or fully protected bird) (FGC § 3800).
- Take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such bird, except as provided by rules or regulations adopted by the Secretary of the Interior under the Migratory Bird Treaty Act (FGC § 3513).
- Take, import, export, possess, purchase, or sell any bird (or products of a bird), listed as an endangered or threatened species under the California Endangered Species Act unless the person or entity possesses an Incidental Take Permit or equivalent authorization from CDFW. (FGC §§ 2050 et seq.)

In compliance with the California Fish and Game Code, birds and their active nests are protected; therefore, the trees onsite would be removed outside of the nesting season, either prior to February 15 or after August 15. Impacts would be less than significant with compliance with the California Fish and Game Code.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The City of Brea does not have an ordinance protecting biological resources on private property. Street trees are protected under the Municipal Code, Chapter 12.20 (Brea 2019b). The trees on-site are on private property and is not a street tree. No impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project area is in not within a Natural Community Conservation Plan or Habitat Conservation Plan area. The project area does not contain sensitive biological resources, and there are no local policies protecting biological resources applicable to the site. No impact would occur.

8.3 GEOLOGY AND SOILS

Appendix G checklist question (f) regarding paleontological resources is addressed in Section 5.3, *Cultural Resources*. The analysis in this section is based in part on the following technical study:

- *Preliminary Geotechnical Investigation, Proposed Brea Mall Development.* Prepared by Professional Service Industries, Inc. (PSI). February 27, 2018.

A complete copy of this study is included as Appendix N of the DEIR.

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Based on a review of the Alquist-Priolo Earthquake Fault Zoning Map, the project rea is not in an Alquist-Priolo Zone (CDC 1998). The closest active fault is the Whittier Fault (Elsinore fault zone, Whittier section) located approximately 1.7 miles to the northeast from the site (PSI 2018). There is no potential for ground rupture on the project area caused by a known earthquake fault. Therefore, no impact would occur.

ii) Strong seismic ground shaking?

Less Than Significant Impact. As with the rest of southern California, the project area is expected to experience strong seismic ground shaking. The closest active fault is the Whittier Fault approximately 1.7-miles to the northeast of the project area (PSI 2018). Although seismic activity from this fault could potentially affect the project area, the site is at no greater risk than the surrounding development and infrastructure.

Additionally, all structures built for the proposed project would adhere to the 2016 California Building Code (California Code of Regulations, Title 24, Part 2), which provides minimum standards to protect property and public welfare by regulating design and construction to mitigate the effects of seismic shaking and adverse soil conditions. Compliance with the standards of the 2016 California Building Code would reduce impacts from seismic ground shaking to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or gravel deposits that lose their load supporting capability when subjected to intense shaking. Parts of the City of Brea are in the liquefaction zone; the project area is not within a liquefaction zone (CDC 1998). The liquefaction analysis

of the geotechnical report indicates that a zone of poorly graded sand between depths of 33 to 37 feet below ground surface (bgs) could liquefy during the design earthquake with high groundwater levels (PSI 2018). Seismic settlements induced from liquefaction may result in 0.7-inch of displacement with an estimated differential settlement of less than ½ inch over a 40-foot span (PSI 2018). However, with the implementation of the recommendations provided in the geotechnical report, impacts of seismic-related ground failure to the proposed project would be less than significant.

iv) Landslides?

Less Than Significant Impact. Susceptibility of slopes to landslides and other slope failures depend on several factors that are usually present in combination—steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, seismic activity, etc. The project area is not in an area designated as having a landslide potential (PSI 2018). The project area is relatively flat; therefore, it is unlikely that the site would be susceptible to landslide hazards.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved, and removed from one place and transported to another. The project area is paved and developed with an existing mall and ornamental vegetation. The project would implement structural and nonstructural best management practices before and during construction to control surface runoff and erosion to retain sediment on the project area. Once the proposed project is constructed, soil erosion would be controlled with improvements installed on the project area. Therefore, a less than significant impact would occur.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. As discussed in Section 8.3.a.iii and 8.3.a.iv, the project area is not in a liquefaction zone or an area designated as having a landslide potential.

Lateral spreading is a phenomenon where large blocks of intact, nonliquefied soil move downslope on a large liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. The topography of the site is relatively flat, and as indicated in the geotechnical report, lateral spreading would not result in significant impacts due to potential liquefaction (PSI 2018). Therefore, impacts from lateral spreading would be less than significant.

Subsidence of basins attributed to overdraft of groundwater aquifers or over pumping of petroleum reserves has been reported in various parts of southern California. According to the City of Brea General Plan, oil fields in Brea today contain wells and associated petroleum and natural gas facilities (Brea 2003). The proposed project would neither result in an overdraft of groundwater aquifers nor over pump petroleum

reserves. As indicated in the geotechnical report, surficial disturbances are not expected to occur due to potential liquefaction (PSI 2018). Impacts to subsidence would be less than significant.

Seismic settlements induced from liquefaction may result in 0.7-inch of displacement with an estimated differential settlement of less than ½ inch over a 40-foot span (PSI 2018). However, with the implementation of the recommendations provided in the geotechnical report, impacts of seismic-related ground failure to the proposed project would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Highly expansive soils swell when they absorb water and shrink as they dry, and can cause structural damage to building foundations and roads. Therefore, they are less suitable for development than nonexpansive soils. The expansion potential of representative samples of the existing site soils is low (EI=34 and 35) (PSI 2018). Foundation and slab subgrades, landscaping, and site grading/drainage must be designed for such soils, as indicated in the geotechnical report. Due to the presence of low expansive soils, the geotechnical report recommends that the subgrade soils beneath the building floor be moisture conditioned to 0 to 2 percent above the soil's optimum moisture content to a depth of at least 12 inches, and a 10-mil vapor retarding membrane be included beneath slabs to reduce moisture vapor transmission into interior spaces (PSI 2018). Therefore, impacts from expansive soils would be less than significant.

e) 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. The proposed project would not require the installation of a septic tank or alternative wastewater disposal system, but would utilize the local sewer system. Therefore, no impacts would result from soil conditions in relation to septic tanks or other on-site water disposal systems.

8.4 HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The project area is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). Drainage and surface water discharges during construction and operation of the proposed project would not violate any water quality standards or waste discharge requirements. However, site preparation and other soil-disturbing activities during construction of the project could temporarily increase the amount of soil erosion and siltation entering the local stormwater drainage system.

The project area is approximately up to 17.5 acres. Pursuant to Section 402 of the Clean Water Act, the US Environmental Protection Agency has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water

8. Impacts Found Not to Be Significant

Resources Control Board administers the NPDES permitting program and is responsible for developing permitting requirements. The NPDES program regulates industrial pollutant discharges, including construction activities for sites larger than one acre. Since implementation of the proposed project would disturb more than one acre, the proposed project would be subject to the NPDES Construction General Permit requirements (Order No. 2009-0009-DWQ).

Construction

Clearing, grading, excavation, and construction activities associated with the project have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. To minimize these potential impacts, the proposed project would be required to comply with the NPDES Construction General Permit as well as the best management practices (BMPs) to control erosion and prevent any discharge of sediments from the site, as detailed in the Preliminary Water Quality Management Plan (WQMP, See Appendix M) (R.A. Smith 2019a), to reduce potential impacts to less than significant levels.

Operation

For site operations, the Preliminary WQMP details structural BMPs, including providing storm drainage system stenciling and signage and using efficient irrigation systems. Non-structural BMPs include educating property owners and tenants and managing coming landscape areas, as stated in the Preliminary WQMP (see Appendix M). Therefore, a less than significant impact to water quality standards would occur.

The proposed project would also be required to comply with applicable federal, state, and local regulations. Provided that the standard BMPs and those mentioned in the Preliminary WQMP are implemented, the proposed project would not substantially degrade water quality. A less than significant impact would occur.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The project area is in the Coastal Plain of Orange County subbasin (DWR 2019). The project does not propose groundwater wells that would extract groundwater from the aquifer, nor would the proposed project affect recharge capabilities for the basin, as there are no wetlands onsite. Thus, a less than significant impact would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in a substantial erosion or siltation on- or off-site;

Less Than Significant Impact. The proposed project would not alter the course of a stream or river. The proposed project would treat a portion of the run-off from the existing parking lot in-lieu of the disturbed area, and the remainder of the existing parking lot run-off would be captured via a proposed

valley gutter which would drain to a new inlet and bypass the proposed chamber system (R.A. Smith 2019b). There would be a curb cut provided in the southeastern portion of the proposed eastern parking lot to maintain existing drainage patterns and convey stormwater runoff to the ring road (R.A. Smith 2019b). Construction of the project would increase the potential for erosion and siltation. However, the improvements would be constructed over a short period of time, and BMPs would be implemented to reduce erosion and siltation impacts. Therefore, a less than significant impact to drainage would occur.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less Than Significant Impact. The project would not alter the course of a stream. Project implementation would result in construction of a new residential development with landscaping and open space areas onsite, as well as an increase in the mall's GLA. Impervious surfaces would decrease onsite, and through the use of BMPs pertaining to site design and low impact development, the proposed drainage system would maintain existing drainage patterns and stormwater runoff (see Table 5.14-4, *Existing and Proposed Storm Drain Flows*). Therefore, a less than significant impact to surface runoff would occur.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact. Project implementation would decrease impervious surfaces, compared to existing conditions, and site design BMPs would also minimize the impacts associated with impervious surfaces. The proposed curb cut provided in the southeastern portion of the proposed eastern parking lot would maintain existing drainage patterns and convey stormwater runoff to the ring road. Therefore, the proposed project would not exceed the capacity of existing or planned stormwater drainage systems. Impacts would be less than significant.

iv) Impede or redirect flood flows?

Less Than Significant. The project area is developed with an existing mall. The proposed project would take place within the footprint of the project area, which is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0042J) (FEMA 2009). Since the likelihood of floods in the project area is low, the proposed project would have a less than significant impact on impeding or redirecting flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam or other artificial body of water. Thirteen dams in the greater Los Angeles area moved or cracked during the 1994 Northridge earthquake. However, none were severely damaged. This low damage level was due in part to completion of the retrofitting of dams and reservoirs pursuant to the 1972 State Dam Safety Act.

According to Figure PS-3 of the City of Brea General Plan, a dam/reservoir failure inundation pathway runs through the eastern portion of the site, from north to south (Brea 2003). Figure PS-3 of the City of Brea General Plan shows that the Berry Street Reservoir and Booster Pump Station is approximately 1.3 miles northwest of the project area, and is separated from the site by urban development (Brea 2003).

A tsunami is earthquake-induced flooding that is created from a large displacement of the ocean floor. The site is approximately 17.3 miles northeast of the Pacific Ocean and is not in a tsunami inundation area. The project is not at risk for tsunami impacts.

A mudflow is a landslide event in which debris, land mass, and soils are saturated during their displacement. The project area is relatively flat, with no slopes near the site that are capable of generating a mudflow. No mudflow impacts would occur.

Provided that the standard BMPs and those mentioned in the Preliminary WQMP are implemented, the proposed project would not substantially degrade water quality. As impacts related to the occurrence of site inundation by seiche, tsunami, or mudflow are less than significant, the release of pollutants would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable water management plan. The proposed project would comply with the water quality and use requirements of these plans through the implementation of BMPs. Therefore, impacts would be less than significant.

8.5 MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. There are four mineral resource zones (MRZ):

- **MRZ-1.** Adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2.** Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- **MRZ-3.** The significance of mineral deposits cannot be determined from the available data.
- **MRZ-4.** There is insufficient data to assign any other MRZ designation.

The project area is in MRZ-1, where significant mineral deposits are unlikely or not present (CDC 1994). Mineral resource designations are intended to prevent incompatible land use development on areas determined to have significant mineral resource deposits. The project area and its surrounding areas are not developed for mineral extractions. The project area is developed with an existing mall and commercial and residential uses surround the site. Therefore, no loss of known resources would result from project implementation, and no impact would occur.

b) 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?

No Impact. No mining sites are identified in the City of Brea General Plan (Brea 2003). Therefore, development of the proposed project would not cause a loss of availability of a mining site. No impact would occur.

8.6 WILDFIRE

If located in or near a state responsibility area (SRA) or lands classified as a very high fire hazard severity zones:

Would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project would not conflict with adopted emergency response or evacuation plans. The surrounding roadways would continue to provide emergency access to the project area and surrounding properties during construction and postconstruction. The proposed project would not result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact. There are three primary factors used in assessing wildfire hazards—topography, weather, and fuel. The project area is relatively flat and is in an urbanized environment. The proposed project would not impact weather or topography. At project completion, the project area would consist of a total of 1,441,058 square feet of GLA, 380,947 square feet of residential development, and 88,827 square feet of landscaped area, private open space, and common open space areas. According to Figure PS-2, *High Fire Hazard Areas,* of the City of Brea General Plan, the project area is in a low to very low hazard fire area (Brea 2003). Additionally, the project area is not within a Very High Fire Hazard Severity Zone according to CAL FIRE (CAL FIRE 2011). Therefore, impacts of exposing project occupants to pollutant concentrations from or exacerbating a wildfire would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact. The proposed project would require utility connections and new infrastructure for electricity, natural gas, telecommunications, and cable service. As substantiated in 8.1.11.b, the project area is located in a low to very low fire hazard area. The project area is in a highly urbanized portion of Brea; the proposed project would not add infrastructure such as roads or overhead power lines in areas with wildland vegetation. Therefore, impacts to exacerbating fire risks to the environment would be less than significant.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The project area is relatively flat. The project area is not in an area designated as having a landslide potential (PSI 2018). Furthermore, the project area is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0042J) (FEMA 2009). Therefore, it is unlikely that the site would be susceptible to downslope or downstream flooding or landslides as a result of post-fire slope instability. The project area is located in a low to very low fire hazard area (Brea 2003). Impacts would be less than significant.

8.7 REFERENCES

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8. Impacts Found Not to Be Significant

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9. Significant Irreversible Changes Due to the Proposed Project

Section 15126.2(c) of the CEQA Guidelines requires that an Environmental Impact Report (EIR) describe any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, the CEQA Guidelines state:

> 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. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Implementation of the proposed Brea Mall Mixed Use project would include construction activities that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, water, and fossil fuels. Operation of the proposed project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of the proposed project would limit the availability of such resources for future generations or for other uses during the life of the project.

- An increased commitment of social services and public maintenance services (e.g., police, fire, schools, libraries, and sewer and water services) would also be required. The energy and social services commitments would be long-term obligations in view of the low likelihood of returning the land to its original condition once it has been developed.

- An increase in vehicle trips would accompany project-related population growth. Over the long term, emissions associated with such vehicle trips would continue to contribute to the South Coast Air Basin's nonattainment designation for ozone (O_3) and particulate matter ($PM_{2.5}$ and PM_{10}) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO_2) under the California AAQS.

- The visual character of the project site would be altered by the construction of the additional structures onsite. Additional landscaping, grading, and construction of the project site would also contribute to an

9. Significant Irreversible Changes Due to the Proposed Project

altered visual character of the existing site. This would result in a permanent change in the character of the project site and on- and off-site views in the project's vicinity.

Given the low likelihood that the land at the project site would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

10. Growth-Inducing Impacts of the Proposed Project

Pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines, this section is provided to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities which could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?
- Would this project result in the need to expand one or more public services to maintain desired levels of service?
- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?
- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EIR.

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

Construction of the 312-unit residential component and 149,625 square feet increase in GLA would not require extension of major infrastructure facilities in the project area. The project site is currently developed with an existing mall and is located in an urban area served by existing infrastructure, including water and sewer mains and electricity and natural gas services.

The proposed project would require a zone change to Mixed Use I to allow for the development of 312 residential units. Implementation of the Mixed Use I zone could further induce residential growth in

commercial areas. Pressure to develop other land in the surrounding area may derive from regional economic conditions and market demands for housing, commercial, office, and industrial land uses that may directly or indirectly be influenced by the proposed project. Proposals may arise to implement the Mixed Use I zone in the vicinity of the project site. However, these would require full environmental analysis of the impacts of such actions. The project does not propose changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, or fire codes) to implement this project. The proposed project would comply with all applicable City plans, policies, ordinances, etc. to ensure that there are no conflicts with adopted land development regulations and that any environmental impacts are minimized. Therefore, the proposed project, in and of itself, would not be a precedent-setting action; however, the approval of high-density residential uses in the project area could influence owners of neighboring properties to move away from exclusively commercial uses to mixed use and/or residential uses. Nonetheless, the impacts of subsequent similar actions would require environmental analysis and associated mitigation to ensure that such subsequent impacts would not significantly affect the environment.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

The proposed project would increase population and housing in the City. The project is expected to increase demand for fire protection services, police services, school services, and library services, which would contribute to the need to expand facilities. However, as substantiated in Section 5.10, *Public Services,* and 5.14, *Utilities and Service Systems,* of the DEIR, existing programs and policies would ensure that the service capability will grow proportionate to the increase in uses, and impacts to public services and utilities would be less than significant.

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

During project construction, a number of design, engineering, and construction jobs would be created. This would last until project construction is completed. Construction employees would be absorbed from the regional labor force, and the construction of the project would not attract new workers to the region. The operation of the proposed project would result in an increase of 565 residents and 213 employees (see Section 5.9, *Population and Housing*). Residents of the proposed project would seek shopping, entertainment, employment, home improvement, auto maintenance, and other economic opportunities in the City of Brea and surrounding area. This would create an increased demand for such economic goods and services and would, therefore, encourage the creation of new businesses and/or the expansion of existing businesses that address these needs. The close proximity to the commercial uses on site and the surroundings, as well as Brea Downtown would result in beneficial impacts to the City's jobs-housing balance (see Section 5.9, *Population and Housing*). Therefore, although the proposed project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses in the proposed project.

10. Growth-Inducing Impacts of the Proposed Project

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

As identified above, the project would require a zone change to Mixed Use I to allow for development of 312 residential units, as well as a lot line adjustment. The Mixed Use I zone change could further induce residential growth in the predominantly commercial area. Proposals may arise to implement the Mixed Use I zone in the vicinity of the project. However, these would require full environmental analysis of the impacts of such actions. The project does not propose changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, or fire codes) to implement this project. The project would comply with all applicable City plans, policies, ordinances, etc. to ensure that there are no conflicts with adopted land development regulations and that any environmental impacts are minimized. Therefore, the proposed project, in and of itself, would not be a precedent-setting action; however, the approval of high-density residential uses in the project area could influence owners of neighboring properties to move away from exclusively commercial uses to mixed use and/or residential uses. Nonetheless, the impacts of subsequent similar actions would require environmental analysis and associated mitigation to ensure that such subsequent impacts would not significantly affect the environment.

10. Growth-Inducing Impacts of the Proposed Project

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11. Organizations and Persons Consulted

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City of Brea Fire Department

Kathy Schaefer, Division Chief, Fire Marshal

Peter Salgado, Fire Protection Analyst

City of Brea Police Department

Lieutenant David Dickinson

Native American Tribes

Gabrieleno Band of Mission Indians – Kizh Nation

11. Organizations and Persons Consulted

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12. Qualifications of Persons Preparing EIR

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12. Qualifications of Persons Preparing EIR

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