ATTACHMENT D

FINAL ENVIRONMENTAL IMPACT REPORT

State Clearinghouse No. 2023020497

Final Environmental Impact Report

Hughes Circuits Project

City of San Marcos
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San Marcos, California 92069
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March 2024

MEMORANDUM

To:	Chris Garcia
From:	Owen Baer
Subject:	Hughes Circuits Errata
Date:	4/04/2024
cc:	Patricia Schuyler, Michael Levin, Vanessa Scheidel, Matt Simmons
Attachment(s):	Updated Tables

Change to EIR Sections

In the Environmental Impact Report (EIR) (SCH No. 2023020497) circulated for public review, there were a few inconsistent pieces of information. In sections, such as the Biological Resources section of the EIR or the Biological Resources Technical Report, the total acreage of the project site and the total acreage of the preservation area switched between two different values. The total size acreage was stated as being both 10.86 acres and 10.46 acres. The preservation area acreage was stated as being both 7.85 acres and 8.07 acres.

After confirming the proper values between the ATLA survey and civil, it has been confirmed that the development footprint is 2.61 acres and the conservation easement is 7.85 acres. The EIR document and technological reports will be corrected so these acreages are consistent throughout the document. Specifically, page 2-18 of the Project Description, pages 112, 113, 141 of Section 3.3.1 of the EIR, and pages 11, 34 and 50 of the Biological Resources Technical Report (including table 2 and table 4). The MMRP Mitigation Measures MM- BIO1 and MM-BIO2 will be adjusted to reflect the changes in the Biological Technical Report noted above.

For reference, the updated tables for the Biological Resources Technical Report are appended to this memo.

Table 2. Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover	Onsite Acreage	Offsite Acreage
Group A – Wetlands Communities		
Arundo-Dominated Riparian	0.11	0.01
Disturbed Wetland	0.11	--
Emergent Wetland	0.59	--
San Diego Mesa Claypan Vernal Pool	0.43	--
Southern Willow Scrub	0.03	--
Tamarisk Scrub	0.58	--
Subtotal Group A – Wetlands Communities	*1.84*	0.01
Group B – Rare Uplands		
Valley Needlegrass Grassland	3.51	--
Wildflower Field	1.85	--
Subtotal Group B – Rare Uplands	*5.36*	--
Group C – Coastal Sage Scrub		
Diegan Coastal Sage Scrub	0.96	0.01
Diegan Coastal Sage Scrub—Baccharis-Dominated	1.39	0.04
Subtotal Group C – Coastal Sage Scrub	*2.35*	*0.05*
Group D – Annual Grasslands		
Non-Native Grassland—Broadleaf-Dominated	0.07	--
Subtotal Group D – Annual Grasslands	*0.07*	--
Group F – Other Lands		
Disturbed Habitat	0.59	0.22
Eucalyptus Woodland	0.25	--
Subtotal Group F – Other Lands	*0.84*	*0.22*
*Total**	*10.46*	*0.28*

* Totals may not sum due to rounding.

Table 4. Direct Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres) Onsite	Offsite	Total	Mitigation Ratio	Required Mitigation (acres)	On-Site Preservation (acres)
Group A – Wetland Communities							
Arundo-Dominated Riparian	0.11	0.11	0.01	0.12	N/A	0	0
Disturbed Wetland	0.11	0.11	0	0.11	3:1	0.33	0
Emergent Wetland	0.59	0.29	0	0.29	3:1	0.86	0.30
San Diego Mesa Claypan Vernal Pool	0.43	0	0	0	3:1	0	0.43
Southern Willow Scrub	0.03	0.03	0	0.03	3:1	0.09	0
Tamarisk Scrub	0.58	0.56	0	0.56	N/A	0	0.02
Subtotal Group A – Wetlands Communities	*1.84*	*1.09*	*0.01*	*1.10*	—	*1.28*	*0.76*
Group B – Rare Uplands							
Valley Needlegrass Grassland	3.51	0	0	0	2:1	0	3.51
Wildflower Field	1.85	0	0	0	2:1	0	1.85
Subtotal Group B. Rare Uplands	*5.36*	*0*	*0*	*0*	—	*0*	*5.36*
Group C – Coastal Sage Scrub							
Diegan Coastal Sage Scrub	0.96	0.15	0.01	0.16	1:1	0.16	0.81
Diegan Coastal Sage Scrub—Baccharis-Dominated	1.39	0.54	0.04	0.58	1:1	0.58	0.85
Subtotal Group C – Coastal Sage Scrub	*2.35*	*0.69*	*0.05*	*0.74*	—	*0.74*	*1.67*
Group D – Annual Grasslands							
Non-Native Grassland— Broadleaf-Dominated	0.07	0	0	0	0.5:1	0	0.07
Subtotal Group D – Annual Grasslands	0.07	*0*	*0*	*0*	—	*0*	*0.07*
Group F – Other Lands							
Disturbed Habitat	0.59	0.59	0.22	0.81	N/A	0	0
Eucalyptus Woodland	0.25	0.25	0	0.25	N/A	0	0
Subtotal Group F – Other Lands	*0.84*	*0.84*	*0.22*	1.06	—	*0*	*0*
Total*	10.46	2.61	0.28	2.89	—	2.16	7.85

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
ACC	Advanced Clean Cars
ADA	Americans with Disabilities Act
ATCM	Airborne Toxic Control Measure
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFC	chlorofluorocarbon
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	methane
City	City of San Marcos
CNEL	community noise equivalent level
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DWR	California Department of Water Resources
EIR	environmental impact report
EISA	Energy Independence and Security Act of 2007
EO	Executive Order

Acronym/Abbreviation	Definition
EPA	U.S. Environmental Protection Agency
EV	electric vehicle
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
HCFC	hydrochlorofluorocarbon
HCM	Highway Capacity Manual
HFC	hydrofluorocarbon
HSA	Hydrographic Subarea
HVAC	heating, ventilation, and air conditioning
IBC	International Building Code
IFC	International Fire Code
ips	inches per second
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
kWh	kilowatt-hour
L_{eq}	equivalent noise level
LID	low-impact development
LOS	level of service
LTA	Local Transportation Analysis
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day
MHCP	Multiple Habitat Conservation Program
MM	Mitigation Measure
MMT	million metric tons
MRF	Meadowlark Water Reclamation Facility
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
MT	metric ton
MWD	Metropolitan Water District of Southern California
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NF_3	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OHWM	ordinary high-water mark

Acronym/Abbreviation	Definition
OSHA	Occupational Safety and Health Administration
PDF	Project Design Feature
PFC	perfluorocarbon
PFF	Public Facility Fee
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
POC	point of connection
PPV	peak particle velocity
PRC	California Public Resources Code
project	Hughes Circuits Project
PRPA	Paleontological Resources Protection Act
PV	photovoltaic
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Assessment
RMS	root-mean-square
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCIC	South Coastal Information Center
SCIC	South Coastal Information Center
SCS	Sustainable Community Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SF	square feet
SF_6	sulfur hexafluoride
SHMA	Seismic Hazards Mapping Act
SIP	State Implementation Plan
SMFD	San Marcos Fire Department
SMMC	San Marcos Municipal Code
SMUSD	San Marcos Unified School District
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SO_x	sulfur oxides
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	Tribal Cultural Resource

Acronym/Abbreviation	Definition
TDM	Transportation Demand Management
TIAG	Transportation Impact Analysis Guidelines
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration velocity decibel
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	volatile organic compound
VWD	Vallecitos Water District
WQIP	Water Quality Improvement Plan
ZEV	zero-emissions vehicle

1 EXECUTIVE SUMMARY

1.1 PROJECT SUMMARY

The Hughes Circuits Project (project) would consist of development of a 67,410-square-foot (SF) light industrial building on a currently vacant site, to support the expansion of the existing operations of Hughes Circuits Inc. The vacant project site is composed of Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00 and sits north of South Pacific Street on one side and east of South Pacific Street on the other; however, development would only occur within Assessor's Parcel Number 219-223-20-00.

The 67,410 SF light industrial building includes a 56,310 SF first floor, and a 11,100 SF mezzanine. The proposed light industrial building would include a fire control room, MPOE room, trash enclosure, outdoor amenity area, electrical room, and grade level loading docks. The proposed light industrial building would be located at the western-most portion of the project site, and the disturbance area associated with project construction would be limited to approximately 113,877 SF or 2.61 acres of the 10.46-acre project site. The remaining approximately 7.85 acres within the project boundary would remain in its current condition.

Parking for the proposed building would include 72 parking spaces, including 4 electric vehicle charging stations, 9 carpool and zero emission parking stalls, 4 accessible stalls, and 1 U.S. Postal Service parking stall. Additionally, 4 short-term bicycle parking spaces and 4 long-term bicycle parking spaces would be provided. Access to the proposed building would be provided via two new driveways along S. Pacific Street, one at the northwestern boundary of the proposed building site, and the other at the southeastern boundary of the proposed building site. Stormwater basins and associated landscaping would be incorporated along the perimeter of the proposed light industrial building.

1.2 SUMMARY OF SIGNIFICANT EFFECTS AND MITIGATION MEASURES THAT REDUCE OR AVOID THE SIGNIFICANT EFFECT

Table 1-1, Summary of Significant Environmental Impacts, provides a summary of significant environmental impacts resulting from the project, mitigation measures identified to reduce and/or avoid the environmental effects, and a determination of the level of significance of each impact following implementation of the identified mitigation measures. The analysis shows that, as mitigated, all project impacts would be less than significant, with the exception of transportation; which would result in partially mitigated, yet significant and unavoidable impacts related to vehicle miles travelled (VMT). Detailed analyses of significant environmental effects and mitigation are provided in Chapter 3, Environmental Analysis, of this environmental impact report (EIR).

The mitigation measures listed in Table 1-1 would reduce impacts related to biological resources, cultural resources, geology and soils, transportation and tribal cultural resources to below a level of significance. Impacts related to transportation would remain significant and unavoidable, after mitigation incorporated.

Table 1-1
Summary of Significant Environmental Impacts

Impact	Mitigation Measures	Level of Significance After Mitigation
Biological Resources		
Impact BIO-1: Special-Status Species	Implementation of **MM-BIO-3 through MM-BIO-131~~1~~,** refer to Section 3.3	Less than significant
Impact BIO-2: Riparian Habitat and Sensitive Natural Communities	Implementation of **MM-BIO-1** and **MM-BIO-2**, refer to Section 3.3	Less than significant
Impact BIO-3: Jurisdictional Wetlands and Waterways	Implementation of **MM-BIO-1, MM-BIO-2,** and **MM-BIO-12,** refer to Section 3.3	Less than significant
Cultural Resources		
Impact CR-1: Unknown archaeological resources may occur on the project site, and the project has the potential to disturb such unidentified resources during project grading.	Implementation of **MM-CR-1 through MM-CR-3,** refer to Section 3.4	Less than significant
Impact CR-2: There is a potential for project construction activities to disturb previously unidentified human remains on the project site.	Implementation of **MM-CR-1 through MM-CR-4,** refer to Section 3.4	Less than significant
Geology and Soils		
Impact GEO-1: Paleontological resources may be adversely impacted during excavation	Implementation of **MM-GEO-1**, refer to Section 3.6	Less than significant
Transportation		
Impact TRA-1: The project VMT per employee would exceed 16.07 VMT per employee (15% below regional average) threshold.	Implementation of **MM-TRA-1 through~~and~~ MM-TRA-~~3~~2**, refer to Section 3.15	Significant and unavoidable
Tribal Cultural Resources		
Impact TCR-1: Impacts to previously unidentified Tribal Cultural Resources	Implementation of **MM-CR-1** through **MM-CR-4,** refer to Section 3.4.6	Less than significant

Furthermore, the project proposes implementation of Project Design Feature (PDF)-AQ-1, PDF-AQ-2, and PDF-GHG-1, outlined in Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, of this EIR, which would incorporate off-road equipment that meets the U.S. Environmental Protection Agency's Tier 4 Final emission standards for nonroad engines over 50 horsepower, use of low volatile organic compound architectural coatings, and approximately 9,700 SF of rooftop mounted solar photovoltaic panels on site.

1.3 AREAS OF CONCERN

A Notice of Preparation (NOP) was distributed on February 22, 2023, for a 30-day public review and comment period. Additionally, a public information meeting was held on March 9, 2023.

Public comments were received on the NOP for this EIR and reflect concern or controversy over a number of environmental issues (refer to Appendix A for the NOP and NOP comment letters). A total of 5 letters were received. Issues and concerns raised in the NOP comment letters include the following:

- **Cultural and Tribal Cultural Resources:** impacts to cultural resources, compliance with Assembly Bill 52
- **Hazards and Hazardous Materials:** public health, environmental protection, disposal of hazardous waste
- **Land Use:** conflicts between warehouse use and sensitive receptors
- **Transportation:** scope of the study area, existing roadway congestion, trip generation and distribution, appropriate and adequate mitigation, means of alternative transportation, project access

These concerns are addressed in Chapter 3, Environmental Analysis, of this EIR.

1.4 ISSUES TO BE RESOLVED BY THE DECISION MAKING BODY

An EIR is an informational document intended to inform the public agency decision makers and the public of the significant effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

The lead agency must respond to each significant effect identified in the EIR by making "Findings" for each significant effect. The issues to be resolved by the decision makers for the project include whether or how to mitigate the associated significant effects, including whether to implement a project alternative. The decision makers must determine whether any of the project alternatives would substantially reduce significant effects while still meeting key objectives of the project.

1.5 PROJECT ALTERNATIVES

Two alternatives are proposed to provide an understanding of how environmental effects could be reduced by varying the design and scope of the project. Table 1-2 provides a comparison of the impacts of project alternatives to the impacts of the project. The alternatives outlined below are more fully discussed in Chapter 4, Alternatives, of this EIR.

1.5.1 No Project/No Development Alternative

Under the No Project/No Development Alternative, the project would not be implemented, and the project site would remain undeveloped. However, this no project/no development alternative does not preclude future development on site, as industrial uses would still be allowed under the current Light Industrial land use designation for the site.

The project site is currently undeveloped and supports 16 vegetation communities. These vegetation communities and land covers identified are categorized into three community subgroups: sensitive uplands, sensitive wetlands/riparian habitat, and non-sensitive uplands. Sensitive uplands within the review area consist of Diegan coastal sage scrub, Diegan coastal sage scrub-Baccharis dominated, non-native grassland-artichoke-thistle dominated, non-native grassland-broadleaf dominated, valley needle grassland, and wildflower fields. Sensitive wetlands/riparian habitats within the review area include Arundo-dominated riparian habitat, disturbed wetlands, emergent wetlands, San Diego Mesa claypan vernal pools, southern willow scrub, and Tamarisk scrub. Non-sensitive uplands consist of disturbed habitat and Eucalyptus woodland. Habitat on the project site would not be impacted under this alternative; but also may not be conserved.

Overall, this alternative would be less impactful than the project; however, it would not meet the project objectives outlined in Chapter 2, Project Description, of this EIR and would not allow for conservation of biological resources on-site. This alternative is further described in Section 4.4.3, No Project/No Development Alternative, in Chapter 4, Alternatives, of this EIR.

1.5.2 Reduced Development Intensity Alternative

California Environmental Quality Act (CEQA) Guidelines Section 15126.6, requires consideration of alternatives to the project that are capable of avoiding or substantially reducing any significant adverse impacts associated with the project. As discussed throughout Chapter 3, Environmental Analysis, except for significant and unavoidable transportation impacts related to VMT, the project would result in less-than-significant impacts or no impact, with and without implementation of mitigation measures.

Per the City of San Marcos (City) Transportation Impact Analysis Guidelines (City of San Marcos 2020) Table 1: Sample Small Projects, projects that are consistent with the General Plan and generate fewer than 110 daily trips using San Diego Association of Governments' trip generation rates, would not require further VMT analysis. Under the Reduced Development Intensity Alternative, a 21,800 SF warehouse building would be developed. The substantial reduction in light industrial size from 67,410 SF under the project, to 21,800 SF under this alternative would be required to fall under the Small Project criteria (i.e. less than 110 daily trips) and avoid VMT impacts.

Similar to the project, this alternative would develop a light-industrial use consistent with the General Plan land use and zoning designation for the site. Other improvements, such as circulation,

landscaping and utility connections would occur as required. Off-site improvements beyond those required by mitigation measures would not occur under this alternative. The reduced development footprint area under this alternative would be made into usable open space area for employees. It is expected that the employee count under this alternative would be reduced as a result of the substantially reduced warehouse size.

The Reduced Development Intensity Alternative would potentially provide a slightly reduced level of impact in some environmental analysis areas including air quality, geology and soils, greenhouse gases and transportation. However, mitigation measures would still be required to mitigate impacts to biological resources, cultural resources, and tribal cultural resources.

Overall, this alternative would be less impactful than the project, and would meet most of the project objectives, with the exception of Objectives 3 and 4, as this alternative would not maximize the allowable development footprint on-site and would not provide as many job opportunities as the project.

1.5.3 Environmentally Superior Alternative

Table 1-2 provides a qualitative comparison of the impacts for each alternative compared to the project. As shown in Table 1-2, the No Project/No Development Alternative would eliminate all of the significant impacts identified for the project. However, the No Project/No Development Alternative would not meet any of the project objectives. Additionally, there is no certainty that the project site would remain undeveloped in perpetuity.

CEQA Guidelines Section 15126.6(e)(2) states that if the No Project alternative is identified as the environmentally superior alternative, then an environmentally superior alternative should be identified among the other alternatives.

Among the other alternatives, not including the project, the Reduced Development Intensity Alternative would be considered the environmentally superior alternative because it would potentially provide a reduced level of impact in some environmental analysis areas including air quality, greenhouse gas, and geology and soils. However, such impacts under this alternative would still remain as less than significant, similar to the project. The Reduced Development Intensity Alternative would also result in decreased footprint specific impacts, such as those related to cultural resources, biological resources, and tribal cultural resources. However, mitigation measures would still be required to mitigate impacts to these environmental resources. Under this alternative, significant and unavoidable transportation impacts under the project would be reduced to less than significant, as this alternative would screen out of VMT due to the 21,800 SF building size falling under the City's Transportation Impact Analysis Guidelines Small Project criteria (i.e., fewer than 110 daily trips).

This alternative would meet all of the project objectives, with the exception of Objectives 3 and 4, as this alternative would not maximize the allowable development footprint on-site and would not provide as many job opportunities as the project.

Table 1-2
Comparison of Impacts of Project and Alternatives

Environmental Topic	Project	No Project/No Development Alternative	Reduced Development Intensity Alternative
Aesthetics	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Air Quality	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Biological Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Geology and Soils	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Greenhouse Gas Emissions	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Hazards and Hazardous Materials	LTS	No Impact (Reduced)	LTS (Same)
Hydrology and Water Quality	LTS	No Impact (Reduced)	LTS (Same)
Land Use	LTS	No Impact (Reduced)	LTS (Same)
Noise	LTS	No Impact (Reduced)	LTS (Same)
Population and Housing	LTS	No Impact (Reduced)	LTS (Same)
Public Services	LTS	No Impact (Reduced)	LTS (Same)
Recreation	LTS	No Impact (Reduced)	LTS (Same)
Transportation	SU	No Impact (Reduced)	LTS (Reduced)
Tribal Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Utilities and Service Systems	LTS	No Impact (Reduced)	LTS (same)
Wildfire	LTS	No Impact (Reduced)	LTS (same)

Notes: Impact Status: LTS = Less Than Significant Impact; LTSM = Less Than Significant with Mitigation; SU = Significant and Unavoidable

2 PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING

As required by Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, this chapter describes the Hughes Circuits Project (project), and includes a statement of the project objectives, a general description of the project's technical, economic, and environmental characteristics, and a summary of the discretionary actions required to approve the project. The project provides guidelines and standards for the implementation of future development of the project site.

2.1 PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines requires that an environmental impact report (EIR) include a statement of the project objectives. The project objectives include the following:

1. Expand the existing Hughes Circuits facilities to a nearby location for ease of continued operation and access.
2. Concentrate non-residential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, and industrial noise to the greatest extent feasible.
3. Develop a fiscally sound and employment-generating land use that maximizes the use of the light-industrial zoned area.
4. Restore, manage, and conserve sensitive on-site biological resources, to the extent feasible, while accommodating and maximizing development on-site consistent with the General Plan land use and zoning designation.
5. Promote infill development and develop a site that is served by existing utilities, services, and street access.

2.2 PROJECT DESCRIPTION

The approximately 10.46-acre project site is located at the northeast corner of South Pacific Street and South Pacific Street within the City of San Marcos (City), California. The vacant project site is composed of Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00 and sits north of South Pacific Street on one side and east of South Pacific Street on the other. The project location and project site boundary are shown in Figure 2-1, Project Location, and Figure 2-2, Project Site and Surroundings.

The project consists of development of a 67,410-square-foot (SF) light industrial building to support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. The 67,410 SF light industrial building includes a 56,310 SF first floor, and a 11,100 SF mezzanine. The proposed light industrial building would be

located at the western-most portion of the project site, and the disturbance area associated with project construction would be limited to approximately 113,877 SF or 2.61 acres of the 10.46-acre project site. Proposed development would only occur within Assessor's Parcel Number 219-223-20-00. The proposed light industrial building would include a fire control room, MPOE room, trash enclosure, outdoor amenity area, electrical room, and grade level loading docks. Parking for the proposed building would include 72 parking spaces, including 4 electric vehicle charging stations, 9 carpool and zero emission parking stalls, 4 accessible stalls, and 1 U.S. Postal Service parking stall. Additionally, 4 short-term bicycle parking spaces and 4 long-term bicycle parking spaces would be provided. Furthermore, the project would incorporate approximately 9,700 SF of rooftop mounted solar photovoltaic panels.

Access to the proposed building would be provided via two new driveways along S. Pacific Street, one at the northwestern boundary of the proposed building site, and the other at the southeastern boundary of the proposed building site, as shown in Figure 2-3, Site Plan. Stormwater basins and associated landscaping would be incorporated along the perimeter of the proposed light industrial building. Approximately 60 employees would work out of the proposed light industrial building.

The project site is currently designated as Light Industrial (LI) under the City's General Plan Land Use Map (City of San Marcos 2022), and has a zoning designation of Light Industrial (L-I) (City of San Marcos 2023). The project proposes a Light Industrial land use, consistent with the City's land use designation for the project site.

Topography within the review area is relatively flat with multiple wetlands, including vernal pools, and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right-of-way~~ as well as an unpaved walking path bisect the site. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the project site to 535 feet above mean sea level in the northwest portion of the project site. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east.

2.2.1 Discretionary Actions Required of the City

The requested project entitlements/discretionary actions by the City include the following:

- **Site Development Plan** – The Site Development Plan approves specific development configurations for the site.

2.2.2 Project Characteristics

Land Uses

As described above, the project consists of development of a 67,410 SF light industrial building on a currently vacant site, to support the expansion of the existing operations of Hughes Circuits Inc., located adjacent to the project site to the south, at 546 S. Pacific Street. The proposed 67,410 SF light industrial building would be located at the western-most portion of the project site, and the disturbance area associated with project construction would be limited to approximately 113,877 SF or 2.61 acres of the 10.46-acre project site. The remaining approximately 7.85 acres within the project boundary would remain in its current condition. The proposed building would have a maximum height of 43 feet.

Circulation and Access

The project site is on a vacant parcel, adjacent to S. Pacific Street to the west and south. Pacific Street is identified as an unclassified Major Road in the City of San Marcos Mobility Element. Pacific Street is built as a two-lane undivided roadway for its entire length from San Marcos Boulevard to north of Grand Avenue. Sidewalks are generally not provided on Pacific Street and there are no bicycle facilities.

The project would be accessible from two points on S. Pacific Street, as shown in Figure 2-3. The California Fire Code, along with the San Marcos Fire Department, administers the rules and regulations on fire access design. The project would be designed to provide fire and emergency responders with suitable fire access roads, dimensions, and surfaces (Chapter 5, Section 503.1 through Section 503.4 of the California Fire Code), an adequate number of emergency rated entrances to the community (Appendix D, Section D106 of the California Fire Code), and entryway gate access for first responders (Chapter 5 of the California Fire Code, Section 503.6). Please refer to Section 3.15, Transportation, of this EIR for a detailed description and analysis of proposed access and circulation.

Parking

On-site parking for the proposed building would include 72 parking spaces, including 4 electric vehicle charging stations, 9 carpool and zero emission parking stalls, 4 accessible stalls, and 1 U.S. Postal Service parking stall. Additionally, 4 short-term bicycle parking spaces in the form of outdoor bicycle racks and 4 long-term bicycle parking spaces in the form of indoor bicycle lockers would be provided. The project would comply with the City's required parking ratios for Light Industrial development.

Public Utilities

Water Facilities

There are existing 855 Zone and 920 Zone water facilities in the vicinity of the project site. The 920 Zone facilities consist of 24-inch and 30-inch transmission lines that do not provide direct service to properties in the area. Water service to existing development in the area is from connections to the 855 Zone which includes two 12-inch lines within Pacific Street, along the southern and western boundaries of the project site.

The property is within the Vallecitos Water District service area for water service. Water service for potable residential use and fire service to the project site would be provided by the Vallecitos Water District. The project would connect to existing water lines in South Pacific Street. The proposed development is expected to result in an increase of approximately 3,393 gallons per day in water demand. Please refer to Section 3.17, Utilities and Service Systems, of this EIR for a detailed description and analysis of proposed utility connections.

Sewer Facilities

There are existing gravity sewer lines within South Pacific Street and one line that runs through the project site. The sewer line in South Pacific Street's depth is 8 to 12 feet, increasing in depth as it goes north. The existing sewer main that runs through the project site would be relocated to South Pacific Street. Sewer service to the project site would consist of constructing private on-site sewer lines and connecting to the public system at point locations. The connections to the existing system are outlined in Section 3.17 of this EIR.

Site Drainage

Water arrives on site via natural rainfall and off-site runoff. The majority of the existing off-site surface slopes generally from the north to the south. When the water reaches South Pacific Street along the west border of the project site, it flows into the existing dual 48-inch pipes then flow through vacant property before entering the project area. When water reaches the north edge of the project site, it flows along the slope until it reaches the point of connection at the southern edge of the property at South Pacific Street.

Per Municipal Separate Storm Sewer System requirements, stormwater flows on-site would be conveyed to biofiltration systems located on the eastern boundary of the development area through storm drains throughout the project site, where water would be treated prior to being discharged. Improvements also include a new curb and gutter system and a dispersion area between South Pacific Street and the open space area, east of the development area. Storm drainage components would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies rates that are similar to or less than pre-development conditions. The project would

incorporate appropriate design of on- and off-site drainage facilities and would prepare and implement a Stormwater Pollution Prevention Plan, Storm Water Quality Management Plan, and best management practices. Please refer to Section 3.17 of this EIR which describes and analyzes project utilities and service systems in detail.

Electrical and Gas

Electricity and natural gas would be provided by San Diego Gas & Electric. Electrical facilities throughout the City include a combination of above-ground and below-ground electrical distribution lines and utilities structures. The City fiber-optic network is facilitated by a 72-strand fiber-optic line that runs on various streets throughout the City. All major arterials in the City have implemented fiber optics. The project would require constructing private utility lines to connect to existing electrical lines and natural gas pipeline within South Pacific Street.

2.3 ENVIRONMENTAL SETTING

2.3.1 Existing Land Uses and Setting

The project site is currently vacant and has no existing impervious areas. Topography within the project boundary is relatively flat with multiple wetlands, vernal pools, and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right-of-way~~ as well as a dirt walking path bisect the site. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the review area to 535 feet above mean sea level in the northwest portion of the review area. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is State Route 78 located approximately 0.8 miles north of the project site.

2.3.2 Existing Land Use and Zoning Designations

Existing General Plan Land Use Designation

As described above, the existing General Plan land use designation for the project site is Light Industrial (LI) (City of San Marcos 2022). Development allowed under this land use designation must be consistent with those uses outlined in the City's municipal code and zoning ordinance, as well as the Light Industrial land use designation of the General Plan. Please refer to Figure 2-4, Existing General Plan Land Use.

Existing Zoning Designation

Existing zoning of the project site is Light Industrial (L-I). The purpose of the Light-Industrial zoning designation is to "provide for the grouping of light- and medium-intensity industrial and support service uses in a business-supportive setting. Generally, these areas will not include pedestrian-oriented

businesses and will serve the loading, delivery, and indoor warehousing needs of light industrial space" (City of San Marcos Municipal Code Section 20.230.020). The L-I Zone is intended to implement and be consistent with the Light Industrial land use designation of the General Plan (City of San Marcos Municipal Code Section 20.230.020). Please refer to Figure 2-5, Existing Zoning.

2.3.3 Regional Setting

The following provides a general description of various aspects of the project's environmental setting. Additional descriptions of the project's environmental setting as it related to environmental issue areas can be found in Chapter 3, Environmental Analysis, and Chapter 5, Effects Found Not To Be Significant, of this EIR.

Climate

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters (City of San Diego 2007). The average summertime daily high temperature in the region is above 77°F. The average wintertime low temperature is approximately 46°F. Average precipitation in the local area is approximately 10 inches per year, with the bulk of precipitation falling between late November and early April (WeatherSpark 2023).

Air Basin

The City and project site is within the San Diego Air Basin (SDAB) and is under the jurisdiction of the San Diego Air Pollution Control District. The SDAB is one of 15 air basins that geographically divide the State of California. The SDAB lies in the southwest corner of California and comprises the entire San Diego region, covering 4,260 square miles, and it is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter less than or equal to 10 microns (coarse particulate matter [PM_{10}]), particulate matter less than or equal to 2.5 microns (fine particulate matter [$PM_{2.5}$]), and O_3 (EPA 2021 [national]; CARB 2020 [state]).

Soils

Two soil series are mapped in the project boundary: Las Flores loamy fine sand, 2% to 9% slopes (LeC) and Placentia sandy loam, thick surface, 0% to 2% slopes (PfA), which are both moderately well drained and listed as hydric soils (USDA 2021). Las Flores soils are on hillslopes and formed in residuum

weathered from siliceous calcareous sandstone, while Placentia soils are on alluvial fans and formed in alluvium derived from granite.

Terrain and Topography

The project site is characterized by undeveloped terrain and has no existing impervious areas. As previously described, topography within the project boundary is relatively flat with multiple wetlands and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right of way~~ as well as an unpaved walking path bisect the site.

Watersheds and Hydrology

The project site occurs within the central portion of the San Marcos Creek Watershed (Hydrologic Unit Code 180703030503), within the greater boundaries of the San Marcos Creek-Frontal Gulf of Santa Catalina Parent Watershed (Hydrologic Unit Code 1807030305). The San Marcos Creek Watershed is approximately 53 square miles (34,246 acres) and consists of two major tributaries: San Marcos Creek and Encinitas Creek. These tributaries converge prior to discharging into the Pacific Ocean at Batiquitos Lagoon. This subwatershed consists of two tributaries: Las Posas Branch and Twin Oaks Branch of San Marcos Creek. These tributaries converge prior to discharging into Lake San Marcos south of the project site. The Las Posas Branch tributary to San Marcos Creek runs directly on the border of the western side of the property. A second tributary runs through the site on the eastern side to San Marcos Creek. This tributary is mapped within a floodplain and characterized as a regulatory floodway. In addition, there are five distinct mapped vernal pool watersheds consisting of San Diego Mesa Claypan vernal pools located on the central and eastern portions of the project site.

Habitat

Within the project boundary, 16 vegetation communities and/or land covers were identified and categorized into three community subgroups: sensitive uplands, sensitive wetlands/riparian habitat, and non-sensitive uplands. Sensitive uplands within the review area consist of Diegan coastal sage scrub, Diegan coastal sage scrub-Baccharis dominated, non-native grassland-artichoke-thistle dominated, non-native grassland-broadleaf dominated, valley needle grassland, and wildflower fields. Sensitive wetlands/riparian habitats within the review area include arundo-dominated riparian habitat, disturbed wetlands, emergent wetlands, San Diego Mesa claypan vernal pools, southern willow scrub, and Tamarisk scrub. Non-sensitive uplands consist of disturbed habitat and eucalyptus woodland.

Multiple hydrophytic vegetation communities and special-status plant species are present surrounding the San Diego mesa Claypan vernal pools, wildflower fields, and emergent wetlands identified within the project boundary. San Diego button celery (*Eryngium aristulatum*) thread-leaved brodiaea (*Brodiaea filifolia*) are federal- and state-listed endangered species with a California Native Plant Society's Rare Plant Rank of 1B.1. Plants with a California Rare Plant Rank of 1B.1 are rare throughout

their range with the majority of them endemic to and seriously threatened in California (CNPS 2021). Orcutt's brodiaea (*Brodiaea orcuttia*) occurs within and surrounding the wildflower fields on the central and eastern portions of the review area. This species is also categorized under California Native Plant Society's Rare Plant Rank of 1B.1 and is intermixed with thread-leaved brodiaea within the central portion of the project site. Please refer to Section 3.3, Biological Resources, of this EIR for a detailed analysis of biological resources.

2.3.4 Public Services

The following provides a general description of public services within the City that would serve the project. Considering the proposed development and project purpose, schools, parks and other public services are not described, as no habitable structures are proposed. Additional detail on public services can be found in Section 3.13, Public Services, of this EIR.

Fire Protection

The project site is within the San Marcos Fire Protection District boundary. The City of San Marcos Fire Department would provide fire protection and emergency medical services to development at the project. The San Marcos Fire Department provides structural fire protection and advanced life support-level emergency medical services within the City limits; unincorporated territory adjacent to the City's northern boundary; discontinuous, unincorporated areas between the City of San Marcos and the City of Escondido; and the community of Lake San Marcos. The San Marcos Fire Department operates two Fire Stations (Stations 1 and ~~3~~2) that would respond to an incident at the project site.

Police Protection

Police protection services for the project would be provided by the San Diego County Sheriff's Department under contract with the City. The project site would be served by the Sheriff's San Marcos Station, located at 182 Santar Place in the northeast quadrant of the City.

2.4 INTENDED USES FOR EIR

This EIR was prepared in accordance with CEQA (California Public Resources Code Section 21000 et seq.), CEQA Guidelines (14 CCR 15000 et seq.), and the City's Environmental Review Procedures.

The EIR is an informational document that will provide the City's decision makers, public agencies, responsible and trustee agencies, and members of the public with information about (1) the potential for significant adverse environmental impacts that would result from the development of the project, (2) possible ways to minimize any significant environmental impacts, and (3) feasible alternatives to the project that would reduce or avoid significant impacts associated with the project (California Public Resources Code Section 21002.1[a]; 14 CCR 15121[a]). Responsible and trustee agencies may use

this EIR to fulfill their legal authority to issue permits for the project. The analysis and findings in this EIR reflect the independent judgment of the City.

Lead Agency

As defined by CEQA Guidelines Section 15367, a "Lead Agency" means the public agency which has the principal responsibility for carrying out or approving a project. The City is the lead agency for the project because it will perform the entitlement processing of the project. As the designated lead agency, the City has assumed responsibility for preparing this EIR, and the analysis and findings in this EIR reflect the City's independent judgment. When deciding whether to approve the project, the City will use the information in this EIR to consider potential impacts to the physical environment associated with the project.

Responsible Agencies

As defined by CEQA Guidelines Section 15381, a "Responsible Agency" includes all public agencies other than the lead agency which have discretionary approval power over the project, such as the Vallecitos Water District. Subsequent to certification of the Final EIR, agencies with permitting authority over all or portions of the project will use the Final EIR as the basis for their evaluation of environmental effects related to the project that will culminate with the approval or denial of applicable permits.

Trustee Agencies

As defined by CEQA Guidelines Section 15386, a "Trustee Agency" is a public agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. For example, trustee agencies include the California Department of Fish and Wildlife with regard to the fish and wildlife of the state, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the California Department of Fish and Wildlife.

2.4.1 Scope of the EIR

For the project, the City determined that a project EIR, as defined by CEQA Guidelines Section 15161, was required. The City made this determination based on the development proposed for the project site and the discretionary actions requested. This EIR evaluates all subject areas listed in Appendix G to the CEQA Guidelines with the exception of those subject areas determined to have no impact on the environment, which are addressed in Chapter 5 of this EIR. Chapter 3 of this EIR evaluates the following subject areas in detail: aesthetics, air quality, biological resources, cultural resources, energy conservation, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, utilities and service systems, cumulative impacts, and growth-inducing impacts. Chapter 4, Alternatives, analyzes alternatives to the project.

As a "project EIR," this EIR is "focused primarily on the changes in the environment that would result from the project" (CEQA Guidelines Section 15161). In addition, as a project EIR, this EIR examines all phases of the project including planning, construction, and operation (CEQA Guidelines Section 15161). Where environmental impacts have been determined to be significant, this EIR recommends mitigation measures directed at reducing or avoiding those significant environmental impacts. Alternatives to the project are identified to evaluate whether there are ways to minimize or avoid significant impacts associated with the project.

2.4.2 Notice of Preparation and Scoping

CEQA establishes mechanisms to inform the public and decision makers about the nature of the project and the extent and types of impacts that the project and alternatives to the project would have on the environment should the project or alternatives be implemented. Pursuant to Section 15082 of the CEQA Guidelines, the City circulated a Notice of Preparation (NOP) dated February 22, 2023, to interested agencies, organizations, and parties. The NOP was also sent to the State Clearinghouse at the California Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH No. 2023020497) to this EIR.

The NOP is intended to encourage interagency and public communication regarding the project so that agencies, organizations, and individuals are afforded an opportunity to respond with specific comments and/or questions regarding the scope and content of the EIR. A public scoping meeting was held on March 9, 2023, at San Marcos City Hall in the Valley of Discovery Room (1 Civic Center Drive) to gather additional public input. The 30-day public scoping period ended on March 24, 2023. Comments received during the NOP public scoping period were considered part of the preparation of this EIR. The NOP and written comments are included in Appendix A to this EIR. Comments covered numerous topics, including biological resources, cultural resources, hazards, and traffic. Public scoping comments regarding the project's potential impact on the environment have been incorporated in the analysis in Chapters 3, 4, 5, and 6 of this EIR.

2.4.3 Draft EIR and Public Review

This Draft EIR was prepared under the direction and supervision of the City. The Draft EIR will be made available to members of the public, responsible agencies, and interested parties for a 45-day public review period in accordance with CEQA Guidelines Section 15105.

Public review of the Draft EIR is intended to focus "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (14 CCR 15204). The Notice of Completion of the Draft EIR will be filed with the State Clearinghouse as required by CEQA Guidelines Section 15085. In addition, the Notice of Availability of the Draft EIR will be distributed pursuant to CEQA Guidelines Section 15087. Interested parties may provide comments on the Draft EIR in written form. This EIR

and related technical appendices are available for review during the 45-day public review period at the following locations:

City of San Marcos Planning Division
1 Civic Center Drive
San Marcos, California 92069

San Diego County Library San Marcos Branch
2 Civic Center Drive
San Marcos, California 92069

City of San Marcos website: https://www.san-marcos.net/

Interested agencies and members of the public may submit written comments on the adequacy of the Draft EIR to the City's Development Services Department at the address above, addressed to Chris Garcia, Associate Planner, or emailed at cgarcia@san-marcos.net. Comments on the Draft EIR must be received by the close of business on the last day of the 45-day review period. Electronic filing and posting of the EIR would be in compliance with Assembly Bill 819, as applicable.

2.4.4 Final EIR Publication and Certification

Once the 45-day public review period has concluded, the City will review all public comments on the Draft EIR and provide a written response to all written comments pertaining to environmental issues as part of the Final EIR. The Final EIR will include all written comments received during the public review period; responses to comments; and, if applicable, edits and errata made to the Draft EIR. The City will then consider certification of the Final EIR (14 CCR 15090). If the EIR is certified, the City may consider project approval (14 CCR 15092).

The Draft EIR was circulated for public review from December 21, 2023, through February 5, 2024, in accordance with Section 15105(a) of the CEQA Guidelines. A total of six written comment letters were received on the Draft EIR from agencies and organizations, as shown in Table 2-1. Public comment letters and responses to each comment letter received are included as Appendix K to the Final EIR. Each of the written comment letters have been assigned an alphanumeric label, and the individual comments within each written comment letter are bracketed and numbered. For example, Comment Letter A1 contains six comments that are numbered A1-1 through A1-6.

The responses to each comment on the Draft EIR represent a good-faith, reasoned effort to address the environmental issues identified by the comment. Under the CEQA Guidelines, the City, as lead agency, is not required to respond to all comments on the Draft EIR, but only those comments that raise environmental issues. In accordance with CEQA Guidelines Sections 15088 and 15204, the City has independently evaluated the comments and prepared written responses describing the disposition of any significant environmental issues raised (see Appendix K to the Final EIR). CEQA does not require the City to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters.

Table 2-1.
Comment Letters and Commenters

Comment Letter	Commenter	Date Received
Agency		
A1	California Department of Transportation	January 22, 2024
A2	County of San Diego Public Works	February 5, 2024
A3	San Diego County Water Authority	February 5, 2024
A4	U.S. Fish and Wildlife Service	February 12, 2024
Organizations		
O1	San Diego County Archaeological Society	January 13, 2024
O2	Supporters Alliance for Environmental Responsibility	February 5, 2024

Changes have been made to the Final EIR in ~~strikeout~~/underline format in response to comments and to provide updates and clarifications to information provided in the Draft EIR. Consistent with CEQA Guidelines Section 15088.5(b), these revisions have been made to clarify text for consistency or revise punctuation as appropriate throughout the document, and these revisions do not result in new significant information that would require recirculation of the document.

Revisions made throughout the Final EIR are in response to input from agencies and stakeholders as provided in the comments to the Draft EIR. Table 2-2 summarizes changes made to the EIR, by EIR chapter and section, and shows original text included and proposed changes to the text.

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
Introduction (new chapter)		
Executive Summary		
Table 1-1, Page 1-2 (Impact BIO-1)	Implementation of **MM-BIO-3 through MM-BIO-11**	Implementation of **MM-BIO-3 through MM-BIO-13**
Table 1-1, Page 1-2 (Impact TRA-1)	Implementation of **MM-TRA-1** and **MM-TRA-2**	Implementation of **MM-TRA-1 through MM-TRA-3**
Project Description		
Section 2.2, Page 2-2; Section 2.3.1, Page 2-5; and Section 2.3.3, Page 2-7	Topography within the review area is relatively flat with multiple wetlands, including vernal pools, and vegetation communities throughout; additionally, a San Diego County Water Authority right-of-way as well as an unpaved walking path bisect the site.	Topography within the review area is relatively flat with multiple wetlands, including vernal pools, and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right of way~~ as well as an unpaved walking path bisect the site.

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
Section 2.3.4, Page 2-8	**Fire Protection** The project site is within the San Marcos Fire Protection District boundary. The City of San Marcos Fire Department would provide fire protection and emergency medical services to development at the project. The San Marcos Fire Department provides structural fire protection and advanced life support-level emergency medical services within the City limits; unincorporated territory adjacent to the City's northern boundary; discontinuous, unincorporated areas between the City of San Marcos and the City of Escondido; and the community of Lake San Marcos. The San Marcos Fire Department operates two Fire Stations (Stations 1 and 3) that would respond to an incident at the project site.	Fire Protection The project site is within the San Marcos Fire Protection District boundary. The City of San Marcos Fire Department would provide fire protection and emergency medical services to development at the project. The San Marcos Fire Department provides structural fire protection and advanced life support-level emergency medical services within the City limits; unincorporated territory adjacent to the City's northern boundary; discontinuous, unincorporated areas between the City of San Marcos and the City of Escondido; and the community of Lake San Marcos. The San Marcos Fire Department operates two Fire Stations (Stations 1 and ~~3~~2) that would respond to an incident at the project site.
Section 2.4.4, Page 2-11	—	The Draft EIR was circulated for public review from December 21, 2023, through February 5, 2024, in accordance with Section 15105(a) of the CEQA Guidelines. A total of six written comment letters were received on the Draft EIR from agencies and organizations, as shown in Table 2-1. Public comment letters and responses to each comment letter received are included as Appendix K to the Final EIR. Each of the written comment letters have been assigned an alphanumeric label, and the individual comments within each written comment letter are bracketed and numbered. For example, Comment Letter A1 contains six comment that are numbered A1-1 through A1-6. The responses to each comment on the Draft EIR represent a good-faith, reasoned effort to address the environmental issues identified by the comment. Under the CEQA Guidelines, the City, as lead agency, is not required to respond to all comments on the Draft EIR, but only those comments that raise environmental issues. In accordance with CEQA Guidelines Sections 15088 and 15204, the City has independently evaluated the comments and prepared written responses describing the disposition of any

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
		significant environmental issues raised (see Appendix K to the Final EIR). CEQA does not require the City to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. (Table 2-1) Changes have been made to the Final EIR in ~~strikeout~~/underline format in response to comments and to provide updates and clarifications to information provided in the Draft EIR. Consistent with CEQA Guidelines Section 15088.5(b), these revisions have been made to clarify text for consistency or revise punctuation as appropriate throughout the document, and these revisions do not result in new significant information that would require recirculation of the document. Revisions made throughout the Final EIR are in response to input from agencies and stakeholders as provided in the comments to the Draft EIR. Table 2-2 summarizes changes made to the EIR, by EIR chapter and section, and shows original text included and proposed changes to the text. (Table 2-2)
Section 2.6, Page 2-19	Table 2-1	**Table 2-3**
Aesthetics		
Section 3.1.1.1, Page 3.1-3	The topography within the project site is relatively flat with multiple wetlands and vegetation communities throughout; additionally, a San Diego County Water Authority right-of-way as well as a dirt walking path bisect the site.	The topography within the project site is relatively flat with multiple wetlands and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right-of-way~~ as well as a dirt walking path bisect the site.
Biological Resources		
Section 3.3.1, Page 3.3-2	The on-site land use is currently unoccupied and undeveloped apart from an approximately 108-foot-wide San Diego County Water Authority dirt right-of-way lane bisecting the property.	The on-site land use is currently unoccupied and undeveloped apart from two 100-foot-wide parcels ~~an approximately 108-foot-wide San Diego County Water Authority dirt right-of-way lane~~ owned by the San Diego Water Authority bisecting ~~project~~ the project property.

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
Section 3.3.7, Pages 3.3-37 and 3.3-38 (MM-BIO-1)	***On-Site Preservation.*** Impacts to sensitive vegetation shall be mitigated through the on-site preservation of 8.07 acres of sensitive upland and wetland vegetation. The project shall result in the preservation of 7.32 acres of sensitive upland vegetation communities and 0.76 acres of wetland vegetation communities (which includes 0.02 acres of restored areas per MM-BIO-2). A land manager shall be identified to ensure that the project is managed and protected in perpetuity. A conservation easement shall be recorded prior to the issuance of a grading permit.	***On-Site Preservation.*** Impacts to sensitive vegetation shall be mitigated through the on-site preservation of 8.07 acres of sensitive upland and wetland vegetation. The project shall result in the preservation of 7.32 acres of sensitive upland vegetation communities and 0.76 acres of wetland vegetation communities (which includes 0.02 acres of restored areas per MM-BIO-2). A land manager shall be identified to ensure that the project is managed and protected in perpetuity. A conservation easement for the 8.07 acres shall be recorded prior to the issuance of a grading permit or other timing agreed upon by the Planning Division Director or their designee.
Section 3.3.7, Page 3.3-38 (MM-BIO-2)	***Vernal Pool Restoration***. Vernal pool restoration will include some minor recontouring of the existing vernal pool basin where appropriate, mostly where vernal pools have been altered by road ruts, trail berms, and other past disturbances to the site. Along with this minor recontouring, weed control will also be conducted in the vernal pools and surrounding watershed areas. Weed control will consist of a combination of herbicide application, mowing (line trimmers), and hand weeding. Vernal pools on site that are low in diversity, particularly those at the south end of the project, will be planted and seeded with vernal pools species known from the site. Seed collected for this purpose will come from on-site sources only. This will include, but is not limited to San Diego button celery, spreading navarretia, pale spikerush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), toad rush (*Juncus bufonius*), smooth boisduvalia (*Epilobium campestris*), and wooly marbles (*Psilocarphus brevissimus*).	***Vernal Pool Restoration.*** Vernal pool restoration will include some minor recontouring of the existing vernal pool basin where appropriate, mostly where vernal pools have been altered by road ruts, trail berms, and other past disturbances to the site. Any recontouring will avoid impacts to existing vernal pools and existing sensitive species and is intended to develop new pools or to expand pools from existing locations. Along with this minor recontouring, weed control will also be conducted in the vernal pools and surrounding watershed areas. Weed control will consist of a combination of herbicide application, mowing (line trimmers), and hand weeding. Vernal pools on site that are low in diversity, particularly those at the south end of the project, will be planted and seeded with vernal pools species known from the site. Seed collected for this purpose will come from on-site sources only. This will include, but is not limited to San Diego button celery, spreading navarretia, pale spikerush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), toad rush (*Juncus bufonius*), smooth boisduvalia (*Epilobium campestris*), and wooly marbles (*Psilocarphus brevissimus*). Mitigation will not occur within the San Diego County Water Authority owned parcel. The project applicant will consult with the U.S. Fish and Wildlife Service to ensure

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
		that the mitigation plan does not impact listed species.
Section 3.3.7, Page 3.3-39 (MM-BIO-2)	***Habitat Restoration Plan.*** The applicant shall prepare a conceptual habitat restoration plan outlining the restoration described above. Upon approval a 5-year implementation effort would follow the plan, including topographic reconstruction, weed control, seeding, container planting, irrigation, and a program of monitoring and reporting. The restoration plan shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. The plan should include, at a minimum: (a) a description of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.	***Habitat Restoration Plan.*** The applicant shall prepare a conceptual habitat restoration plan outlining the restoration described above. Upon approval a 5-year implementation effort would follow the plan, including topographic reconstruction, weed control, seeding, container planting, irrigation, and a program of monitoring and reporting. The restoration plan shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. The plan should include, at a minimum: (a) a description of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. As part of the mitigation planning a PAR-like cost evaluation will be developed and approved by USFWS to help determine long term costs in the endowment required to support those costs. The applicant is required to fund the endowment before the issuance of grading permits, and the endowment agreement shall be approved by USFWS.
Section 3.3.7, Page 3.3-43 (MM-BIO-13)	**Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the project applicant or its designee shall obtain the following permits: USACE 404 permit, RWQCB 401 Water Quality Certification, and	**Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the project applicant or its designee shall obtain the following permits: USACE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement. The project applicant

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
	CDFW Fish and Game Code 1600 Streambed Alteration Agreement.	will consult with the U.S. Fish and Wildlife Service and get approval of the mitigation plan to ensure that it does not impact listed species.
Cultural Resources		
Section 3.4.1, Page 3.4-4	Two tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, and San Luis Rey Band of Mission Indians on June 6, 2022. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023.	Three ~~Two~~ tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, ~~and~~ the San Luis Rey Band of Mission Indians on June 6, 2022, and the San Pasqual Band of Diegueño Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024.
Section 3.4.6, Page 3.4-12 (MM-CR-2)	**Construction Monitoring:** Prior to the issuance of a Grading Permit or ground disturbing activities, the Applicant/Owner or Grading Contractor shall provide written documentation (either as signed letters, contracts, or emails) to the City's Planning Division stating that a Qualified Archaeologist and Traditionally and Culturally Affiliated	**Construction Monitoring:** Prior to the issuance of a Grading Permit or ground disturbing activities, the Applicant/Owner or Grading Contractor shall provide written documentation (either as signed letters, contracts, or emails) to the City's Planning Division stating that a Qualified Archaeologist and Traditionally and Culturally Affiliated Native American monitor (TCA Native

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
	Native American monitor (TCA Native American monitor) have been retained at the Applicant/Owner or Grading Contractor's expense to implement the construction monitoring program, as described in the Pre-Excavation Agreement. In the event that one or more TCA Tribe chooses not to enter into an agreement, or fails to respond to the offer, the City shall extend the opportunity for another Tribe to provide a monitor. In the event that more than one TCA Tribe requests to provide a TCA Native American monitor for activities subject to these measures, the City will allow for either: 1) up to one monitor from each consulting tribe to be present simultaneously; or 2) for the tribes to develop a rotating schedule that alternates monitoring between the tribes on a daily or weekly basis. The monitors shall be provided at least 72 hours' notice of the initiation of construction and be kept reasonably apprised of changes to the construction schedule. In the event that a monitor is not present at the scheduled time, work can continue without the monitor present, as long as the notice was given and documented.	American monitor) have been retained at the Applicant/Owner or Grading Contractor's expense to implement the construction monitoring program, as described in the Pre-Excavation Agreement. A monitor representing the San Pasqual Band of Mission Indians shall be provided the opportunity to monitor, should they choose to. Native American monitoring shall include a monitor representing a TCA Tribe (Luiseño) and a monitor representing the San Pasqual Band of Mission Indians (if the San Pasqual Band elects to monitor). In the event that one or more TCA Tribe chooses not to enter into an agreement, or fails to respond to the offer, the City shall extend the opportunity for another TCA Tribe to provide a monitor. In the event that more than one TCA Tribe requests to provide a TCA Native American monitor for activities subject to these measures, the City will allow for either: 1) up to one monitor from each consulting tribe to be present simultaneously; or 2) for the tribes to develop a rotating schedule that alternates monitoring between the tribes on a daily or weekly basis. The monitors shall be provided at least 72 hours' notice of the initiation of construction and be kept reasonably apprised of changes to the construction schedule. In the event that a monitor is not present at the scheduled time, work can continue without the monitor present, as long as the notice was given and documented.
Land Use and Planning		
Section 3.10.1, Page 3.10-1	Topography within the project boundary is relatively flat with multiple wetlands, vernal pools, and vegetation communities throughout; additionally, a San Diego County Water Authority right-of-way as well as a dirt walking path bisect the site.	Topography within the project boundary is relatively flat with multiple wetlands, vernal pools, and vegetation communities throughout; additionally, a parcel of land owned by the San Diego County Water Authority ~~right-of-way~~ as well as a dirt walking path bisect the site.
Tribal Cultural Resources		
Section 3.16.1, Page 3.16-2	The project area is relatively flat; a San Diego County Water Authority right-of-way and a dirt walking path bisect the site.	The project area is relatively flat~~;~~, and a parcel of land owned by the San Diego County Water Authority ~~right-of-way~~ and a dirt walking path bisect the site.

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
Section 3.16.1, Pages 3.16-9 and 3.16-10	***Assembly Bill 52 Consultation*** In compliance with Assembly Bill (AB) 52, the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. The City mailed AB 52 notifications on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. As of November 2, 2023, the City has not received a letter concluding consultation.	***Assembly Bill 52 Consultation*** In compliance with Assembly Bill (AB) 52, the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. The City mailed AB 52 notifications on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024. ~~As of November 2, 2023, the City~~

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
		~~has not received a letter concluding consultation.~~
Section 3.16.4, Page 3.16-14	Pursuant to AB 52, notification letters were mailed by the City on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. The Cultural Report was provided to San Pasqual band of Mission Indians, and as of November 2, 2023, the city has not received a letter concluding consultation. Therefore, consultation with San Pasqual band of Mission Indians has not yet been closed.	Pursuant to AB 52, notification letters were mailed by the City on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024. ~~The Cultural Report was provided to San Pasqual band of Mission Indians, and as of November 2, 2023, the city has not received a letter concluding consultation. Therefore, consultation with San Pasqual~~

Table 2-2.
Summary of Changes to the Draft EIR

Section	Original Text	Proposed Change(s)
		~~band of Mission Indians has not yet been closed.~~

When deciding whether to approve the project, the City will use the information provided in the Final EIR to consider potential impacts to the physical environment. The City will also consider all written comments received on the Draft EIR during the 45-day public review period in making its decision to certify the Final EIR as complete and compliant with CEQA and in making its determination whether to approve or deny the project. Environmental considerations, as well as economic and social factors, will be weighed by the City to determine the most appropriate course of action.

Prior to approving the project, the City must make written findings and adopt a Statement of Overriding Considerations with respect to any significant and unavoidable environmental effect identified in the Draft EIR (14 CCR 15091, 15093). If the project is approved, the City will file a Notice of Determination with the State Clearinghouse and San Diego County Clerk within 5 working days after project approval (14 CCR 15094).

Subsequent to certification of the Final EIR, agencies with permitting authority over all or portions of the project may use the Final EIR's evaluation of the project's environmental effects in considering whether to approve or deny applicable permits.

2.4.5 Project Approvals and Permits

Consistent with the City's General Plan and San Marcos Municipal Code Zoning Ordinance Title 20, the project requires certain entitlements be submitted, reviewed, and approved by the City. The requested entitlements include a Site Development Plan, which will present specific lot configurations for the site. The City will use this EIR and associated documentation in its decision to approve or deny the required discretionary permits. The City may also use this EIR in its consideration of any future development proposal, together with any additional or supplemental information or CEQA analysis as may be required. Other responsible and/or trustee agencies can use this EIR and supporting documentation in their decision-making process to issue additional approvals. These additional approvals may include, but are not limited to, approval of sewer and water connections, approval of sign permits, and approval of biological resources mitigation. Responsible agencies include the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and Regional Water Quality Control Board.

2.5 PROJECT INCONSISTENCIES WITH APPLICABLE REGIONAL AND GENERAL PLANS

Throughout Chapter 3 of this EIR, the project has been evaluated in relation to the applicable goals, policies, and objectives of the City's General Plan and San Marcos Municipal Code Zoning Ordinance Title 20 (Section 3.10, Land Use); San Diego Forward: The Regional Plan (Section 3.10); Regional Air Quality Strategy (Section 3.2, Air Quality); San Diego Air Pollution Control District policies (Section 3.2); City's Climate Action Plan (Section 3.7, Greenhouse Gas Emissions); Regional Water Quality Control Board plans and permits (Section 3.9, Hydrology and Water Quality); the Multiple Habitat Conservation Program (Section 3.3); Airport Land Use Compatibility Plans (Section 3.8, Hazards and Hazardous Materials; Section 3.10, Land Use and Planning; and Section 3.11, Noise); and various other applicable regional and local plans and policies.

2.6 LIST OF PAST, PRESENT AND REASONABLY ANTICIPATED FUTURE PROJECTS IN THE PROJECT AREA

CEQA requires an EIR to analyze cumulative impacts. Section 15355 of CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines provides guidance for analyzing significant cumulative impacts in an EIR. The discussion of cumulative impacts "need not provide as great detail as is provided for the effects attributable to the project alone," but instead is to be "be guided by standards of practicality and reasonableness" (CEQA Guidelines Section 15130[b]). The discussion should also focus only on significant effects resulting from the project's incremental effects and the effects of other projects. According to Section 15130(a)(1), "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR."

Cumulative impacts can result from the combined effect of past, present, and future projects located in proximity to the project under review. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments whose impacts might compound or interrelate with those of the project under review.

According to Section 15130(b)(1) of the CEQA Guidelines, a cumulative impact analysis may be conducted and presented by either of two methods:

(A) a list of past, present, and probable activities producing related or cumulative impacts; or

(B) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or

certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

With the exception of the impact analyses of air quality and greenhouse gas emissions, the cumulative list approach has been used in this cumulative analysis, as discussed below. The cumulative impacts of air quality and greenhouse gas emissions have been evaluated using the summary of projections method because the geographic scope of such impacts are on an air basin and global scale.

An inventory of past, present, and reasonably foreseeable future projects within the vicinity of the project site is presented in Table 2-1 and Figure 2-6, Cumulative Projects.

Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
City of San Marcos				
1	Approved	Block 3 Student Housing	NW corner of Campus Way and Barham Drive	342 bed student housing development, with a buildout year of 2022
2	Approved	Discovery Village North	Craven Rd.	Office/Commercial/ Residential on 41 acres
3	Proposed	Main Square	SE corner of San Marcos Blvd. & McMahr Rd.	Mixed-use development with a 468-units apartment complex, and 44,007 SF of commercial space
4	Approved	San Elijo Hills	San Elijo Rd.	11,711 SF Commercial development with a buildout year of 2022
5	Under Construction	Pacific Commercial	NE corner of Grand Ave. & Pacific St.	122 room hotel, with a buildout year of 2022
6	Under Construction	San Marcos Highlands	North end of N. Las Posas Rd.	187-unit Single-Family Residential development, with a buildout year of 2023
7	Under Construction	Villa Serena-Phases 1 and 2	Richmar Ave. & Marcos St.	Demolition of 136 units and construction of 148 unit apartment complex, with a buildout year of 2023 for Phase 1 and 2024 for Phase 2
8	Approved	Montiel Rd Partners	Montiel Rd.	8-unit Single-Family Residential development, with a buildout year of 2024
9	Approved	Meadowlark Canyon LLC	San Marcos Blvd.	33-unit Single-Family Residential development

Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
10	Under Construction	Mariposa- Phase 1 (Alora)	Richmar Ave. & Los Olivos Dr.	60-unit apartment complex, with a buildout year of 2023
11	Approved	Mariposa- Phase 2 (Estrella)	Richmar Ave. & Los Olivos Dr.	66-unit apartment development with a buildout year of 2024
12	Under Construction	Murai-Sab	N. Las Posas Rd.	89-unit Single-Family Residential with a buildout year of 2022/2023
13	Under Construction	Pacifica San Marcos	S. Rancho Santa Fe Rd & Creek St.	Mixed use development of 31-unit apartment complex and 4,375 SF commercial space with a buildout year of 2022/2023
14	Under Construction	Discovery Village South	Future Discovery St.	220-unit Single-Family Residential, with a buildout year of 2023
15	Approved	Breaker Real Estate	SE corner of Twin Oaks Valley Rd & Richmar Ave.	174 bed Assisted Living Facility with a buildout year of 2024
16	Approved	Hall Land Company	Barham Drive, east of Woodland Pkwy.	151-unit multifamily condominium development with buildout year of 2024
17	Approved	Southlake Park Phase 1	Twin Oaks Valley Rd, South of Village Dr	Parking Lot, Fishing Dock
18	Approved	MacDonald Group	San Marcos Blvd. (Former Sears site)	Mixed-use development with 82-unit apartment complex and 5,000 SF of commercial space with a buildout year of 2023/2024
19	Proposed	SP 2017-0004 - Lanikai	Mission Rd at Woodward St (west side)	115-unit Senior Living Complex
20	Under Construction	Sunrise	Barham Drive (near east City limit)	192 dwelling unit Multi-Family Condominiums with a buildout year of 2023
21	Under Construction	Jump Ball LLC	NWC of San Marcos Blvd. at Bent Ave.	Drive-thru Restaurant with buildout year of 2023
22	Approved	Montiel Commercial	2355/2357 Montiel Rd.	32,971 SF Office building
23	Approved	California Allstars	East side of Twin Oaks Valley Rd.	28,137 SF Industrial Building to be completed in 2022

Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
24	Proposed	Budhi Hill Buddhist Center	Poinsettia Ave. s/o Linda Vista Dr.	Development of a 44,113 SF Place of Assembly and associated camous
25	Proposed	Mercy Hill and Marian Center	Borden Rd	31,105 SF Christian Center
26	Approved	Karl Strauss Brewery	Las Posas Rd & Los Vallecitos Blvd.	10,528 SF Tasting Room, Commercial Kitchen, Entertainment Room within existing commercial building
27	Approved	Kiddie Academy	Twin Oaks Valley Rd, northeast of Windy Way	11,430 SF Preschool with a buildout year of 2022
28	Proposed	Edenpark	1601 San Elijo Road	Adaptive reuse of existing structures for recreation, sports, and related personal services, and related commercial uses
29	Under Construction	San Marcos Creek Phase 1 CIP - various numbers	Via Vera Crux Bridge, Bent Avenue Bridge, Discovery Street widening, Levee construction, Promenade, and Creek Channel Wetland Restoration.	San Marcos Creek Phase 1 Infrastructure, Discovery Street (east/west segment), Bent Avenue to Discovery Street (north/south segment) with a buildout year of 2024
30	Funded	CIP 88179	Smilax Road/South Santa Fe Avenue Intersection re-alignment	Smilax Road/South Santa Fe Avenue Intersection re-alignment with a buildout year of 2023
31	Under Construction	CIP 86002	San Marcos Boulevard at Discovery Street Intersection	Intersection improvement 300 feet west, and 920 feet east, of intersection with a buildout year of 2023
32	Under Construction	PARK CIP	Rancho Tesoro Park Improvements – 6.5 acres of 41 acre park	City Park – Phase 1 Multi-Use Field and Parking Lot Improvements with a buildout year of 2022
33	Programmed	CIP ST005	San Marcos Boulevard Reconstruction	Street signal upgrades from Rancho Sante Fe to Grand Avenue with a buildout year of 2026.
34	Proposed	SP 22-0001 Pacific Specific Plan	Generally located at the northwest corner of S. Las Posas Road and Linda Vista Drive	449-unit multi-family residential development on 33.2 acres.

Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
35	Approved	Pacific Grand Ventures, LP	East side of Pacific Street, north of Grand Avenue	26,156 SF industrial building.
36	Proposed	Twin Oaks Valley Winery	1451 Mulberry Dr	3,121 square foot 2-story winery and tasting room on a 4.23-acre lot
37	Approved	Grand Vista/CCI	West side of Los Posas Road and Palm Road	120-unit residential condominium development.
38	Approved	Paul Mayer-Santa Fe Las Floras LP	Northwest corner of S. Santa Fe Ave and Las Flores Drive	50-unit residential apartment building.
39	Proposed	Water Mill Homes, Inc. (Manning Homes)	SW corner of Mulberry Dr. and Cox Rd.	9 single-family residential lots on a 10-acre property.
40	Proposed	San Marcos Hospitality	SW corner of Montiel Rd. and Leora Ln.	Hotel with 107 rooms.
41	Approved	Lonnie Tavvaa – Arco	200 Las Posas Rd.	Gas station, convenience store, car wash.
42	Proposed	TPM 21-0001 Woodward Lot Split	South of Woodward St. at Killarney Terrace.	3 single-family residential lots.
43	Proposed	SH North City, LLC	Discovery St. west of S. Twin Oaks Valley Rd.	532 attached and 94 detached condo units (626 total units), master association community rec center, public and private trail systems that connect to future Knoll Park.
44	Approved	University District Specific Plan Amendment – North City Ph. A & B	~~Univeristy~~University District Specific Plan - N.E. of North City Drive and Campus Way	Mixed use development with 20,000 SF of retail, 100,000 SF of office, and 537 multi-family residential units with a buildout year of 2025.
45	Approved	American Rentals	1030 Linda Vista Dr.	2,500 SF of equipment rental facility with a buildout year of 2023
46	Proposed	P17-0020 (SDP 17-005) Hunter Industries	West terminus of Opal Dr.	67,657 SF office building
47	Proposed	SDP 22-0002-Hughes SMCC, LLC	NE corner of Pacific St, approximately 750 ft south of Linda Vista Dr.	67,410 SF industrial building.

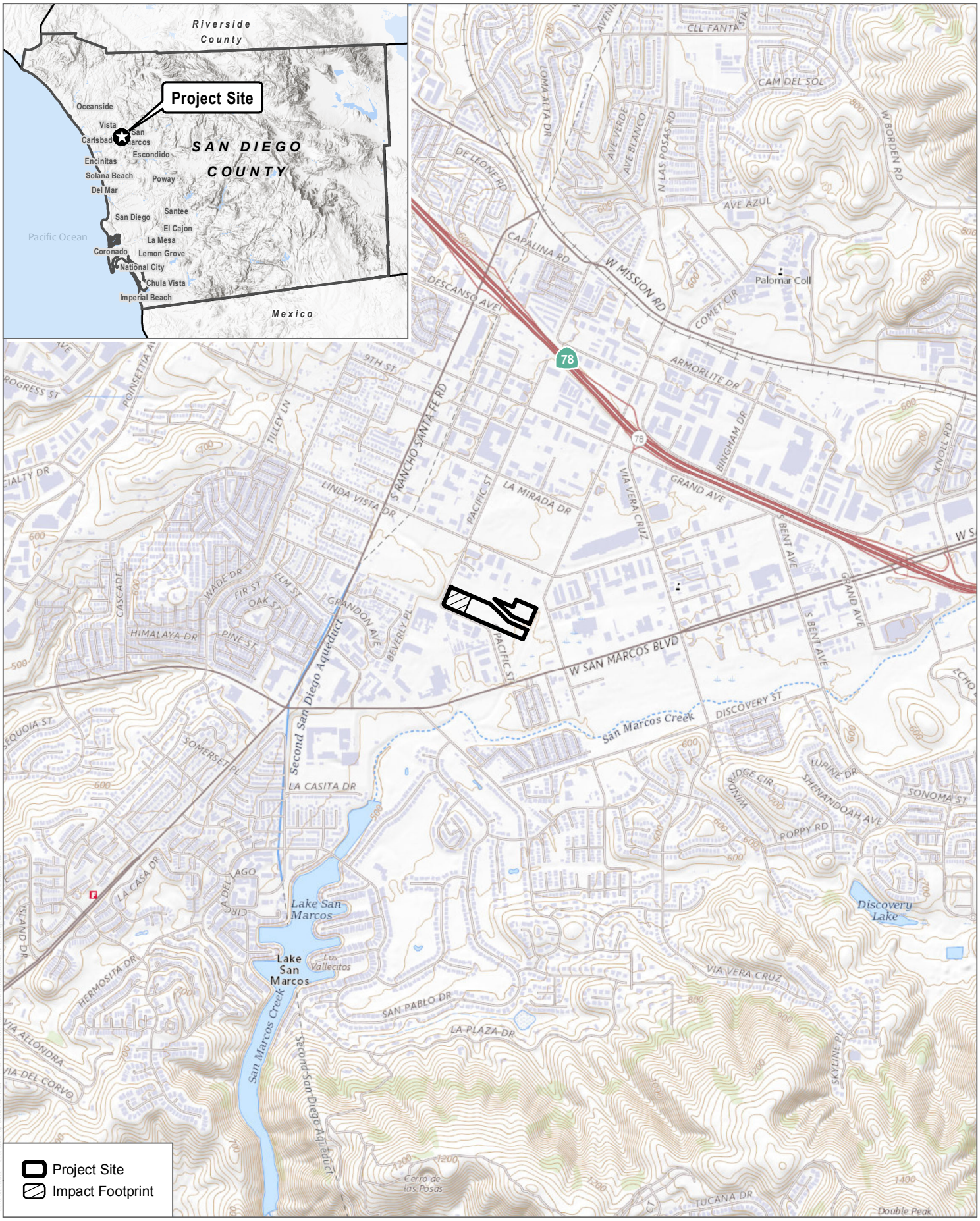
Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
48	Approved	SP 22-0003 - Marcos Specific Plan	SW corner of Grand Ave and Linda Vista Dr	Horizontal mixed-use project with 102 residential units and 63,641 SF of commercial space and 8 live/work units.
49	Proposed	Polley Apartments	North side of Polley Drive at the eastern terminus	17-unit apartment building on a 0.60-arce undeveloped lot.
50	Proposed	Salim Mixed-Use Development	South side of San Marcos Blvd, approximately 300 feet west of Via Vera Cruz.	Mixed-use development on 4.8 acre lot with 10,067 SF of commercial space, 250 residential units, and 8 live/work units.
51	Proposed	Lennar Homes of California, LLC	1020-1080 W. San Marcos Blvd.	Mixed-use development with 10,400 SF of commercial space, 202 residential condominium units, and a public park
52	Approved	San Elijo Hills Town Center East	1093 San Elijo Road	Two-story, multi tenant 8,026 SF commercial building
53	Approved	SDP22-0004 - Creekside Pad M	573 Grand Avenue	5,400 SF multi-tenant retail building in commercial center
54	Proposed	TPM22-0003 - Marilyn Lane 3-Lot Split	1821022500 & 1821023100	3-lot split for Single Family Residential Lots.
55	Proposed	GPA 22-0003 - Capalina Apartments	Capalina Rd. 219-115-33-00	Construction of a mixed-use project on a vacant lot consisting of 119 residential units and 4,000 SF of commercial.
56	Proposed	CUP23-0001 - San Elijo Hills Building F LLC	Lot 3 of Parcel Map #16344	6,400 SF preschool
57	Proposed	SP22-0005 - Woodward 46	East side of Woodward St, north of Mission Rd.	46-unit Residential Condominium Development
58	Approved	GPA22-0005 - Pico Investments	236 Pico Avenue	16-unit Residential Condominium Development
59	Proposed	SPD22-0009 - CRP III Mission, LLC	528 W. Mission Road	Redevelop an existing 10.83-acre industrial park with 3 new industrial buildings totalling 132,310 SF.

Table 2-~~3~~1
Cumulative Projects

No.	Status	Project Name/Developer	Location	Description
60	Proposed	SP23-0001 - Armorlite Lofts	Vacant lot on the north side of Armorlite Drive, in the 1200 block	165 residential apartment units and 5,600 SF of commercial space with a buildout year of 2025.
61	Proposed	SDP23-0001 Pardis Apartments	South side of San Marcos Blvd, approximately 175 feet east of Via Vera Cruz.	Mixed-use development on a 0.92-acre lot consisting of 41 residential units and 2,980 SF of commercial space
62	Proposed	SDP23-0002	2236510100	83,800 SF, 84-unit, 116 resident residential care facility for Alzheimer's and Memory Care
63	Proposed	CUP23-0004 Costco	150 S. Bent Avenue	Gas station with 15 multi-fuel dispensors

CUP = Conditional Use Permit
du = dwelling unit
GPA = General Plan Amendment
MFR = multi-family residence
MUP = Major Use Permit
REZ = Rezone
S = Site Plan
SCH = State Clearinghouse
SF = square feet
SP = Specific Plan
SPA = Specific Plan Amendment
SFR = single-family residence
TM = Tentative Map
TPM = Tentative Parcel Map
VTM = Vesting Tentative Map



SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle
Township 12S / Range 3W / Section 16

DUDEK

0 1,000 2,000 Feet

FIGURE 2-1

Project Location

Hughes Circuits Project Environmental Impact Report

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SOURCE: Bing Maps 2022

DUDEK

0 100 200 Feet

FIGURE 2-2

Project Site and Surroundings

Hughes Circuits Project Environmental Impact Report

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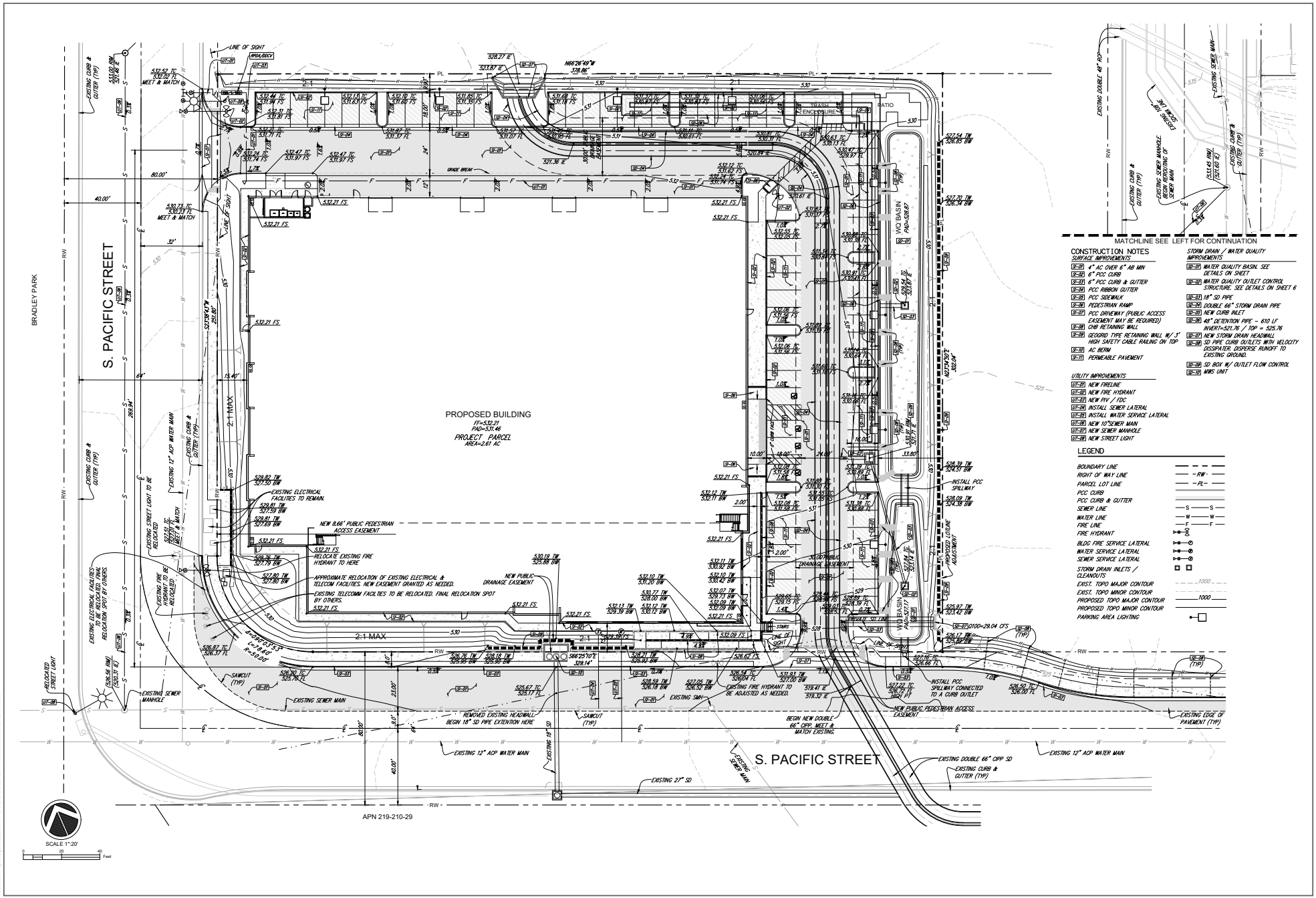

FIGURE 2-3
Site Plan
Hughes Circuits Project Environmental Impact Report

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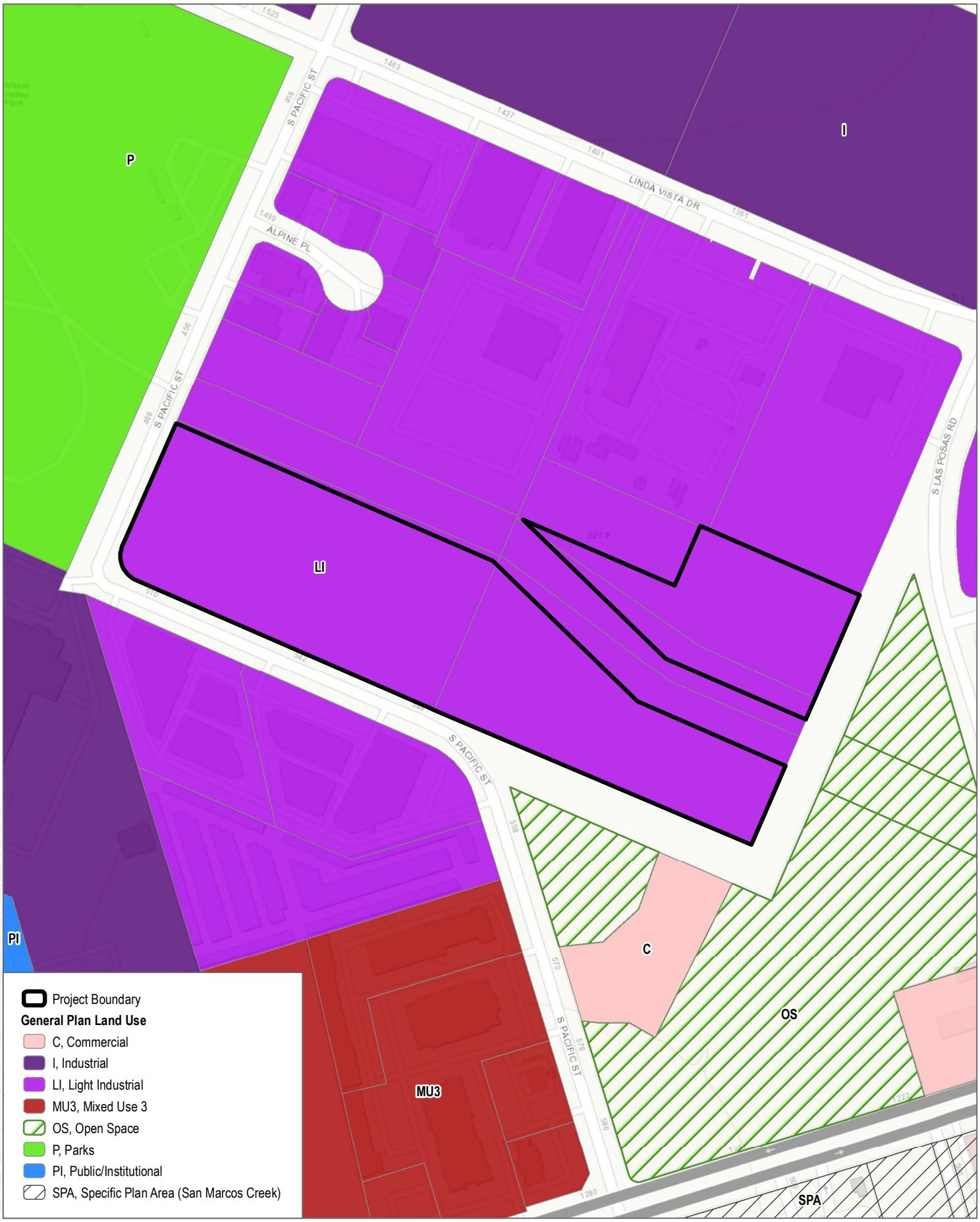

SOURCE: Esri 2022; City of San Marcos 2022

DUDEK

0 100 200 Feet

FIGURE 2-4

Existing General Plan Land Use

Hughes Circuits Project Environmental Impact Report

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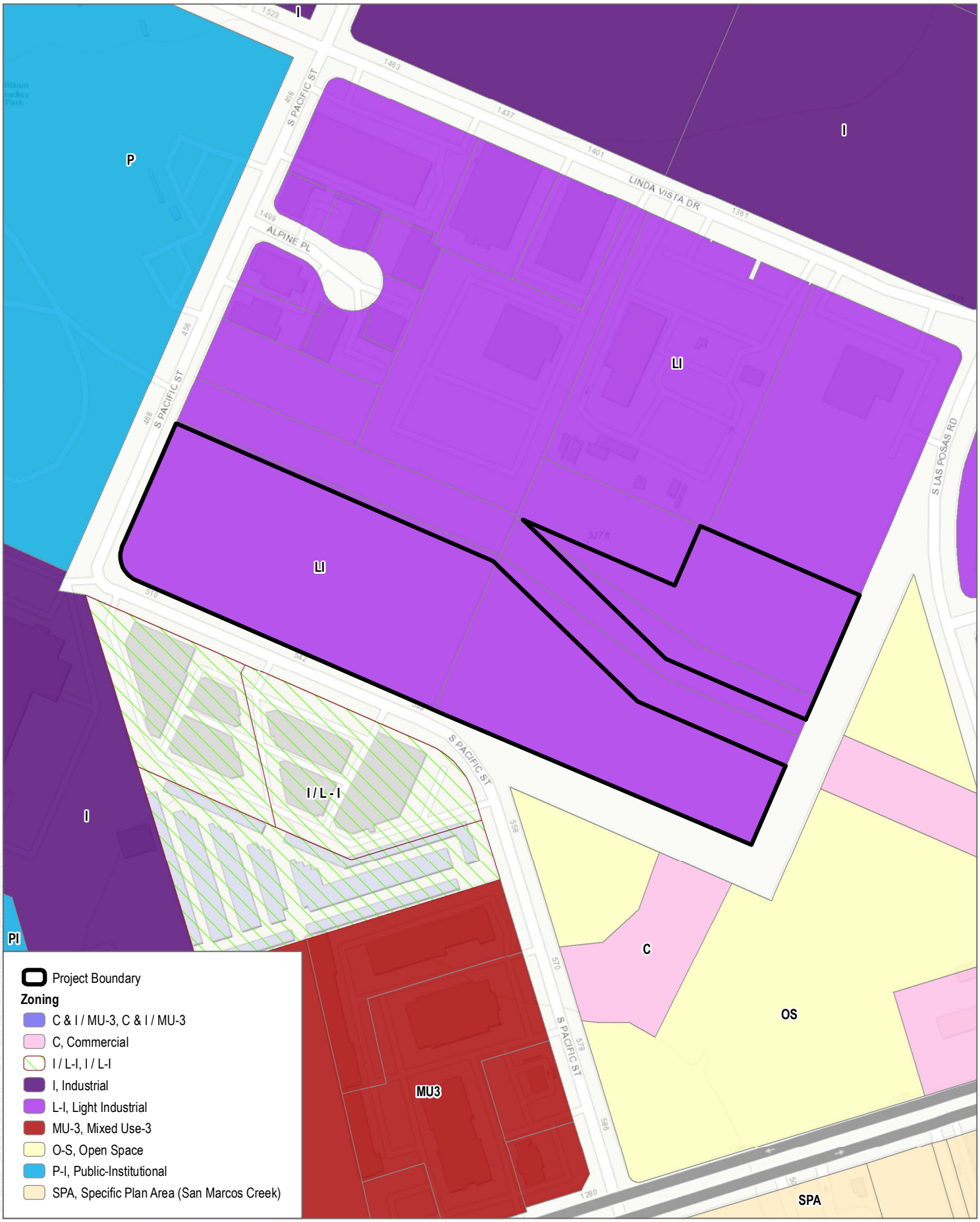

SOURCE: Esri 2022; City of San Marcos 2022

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FIGURE 2-5

Existing Zoning

Hughes Circuits Project Environmental Impact Report

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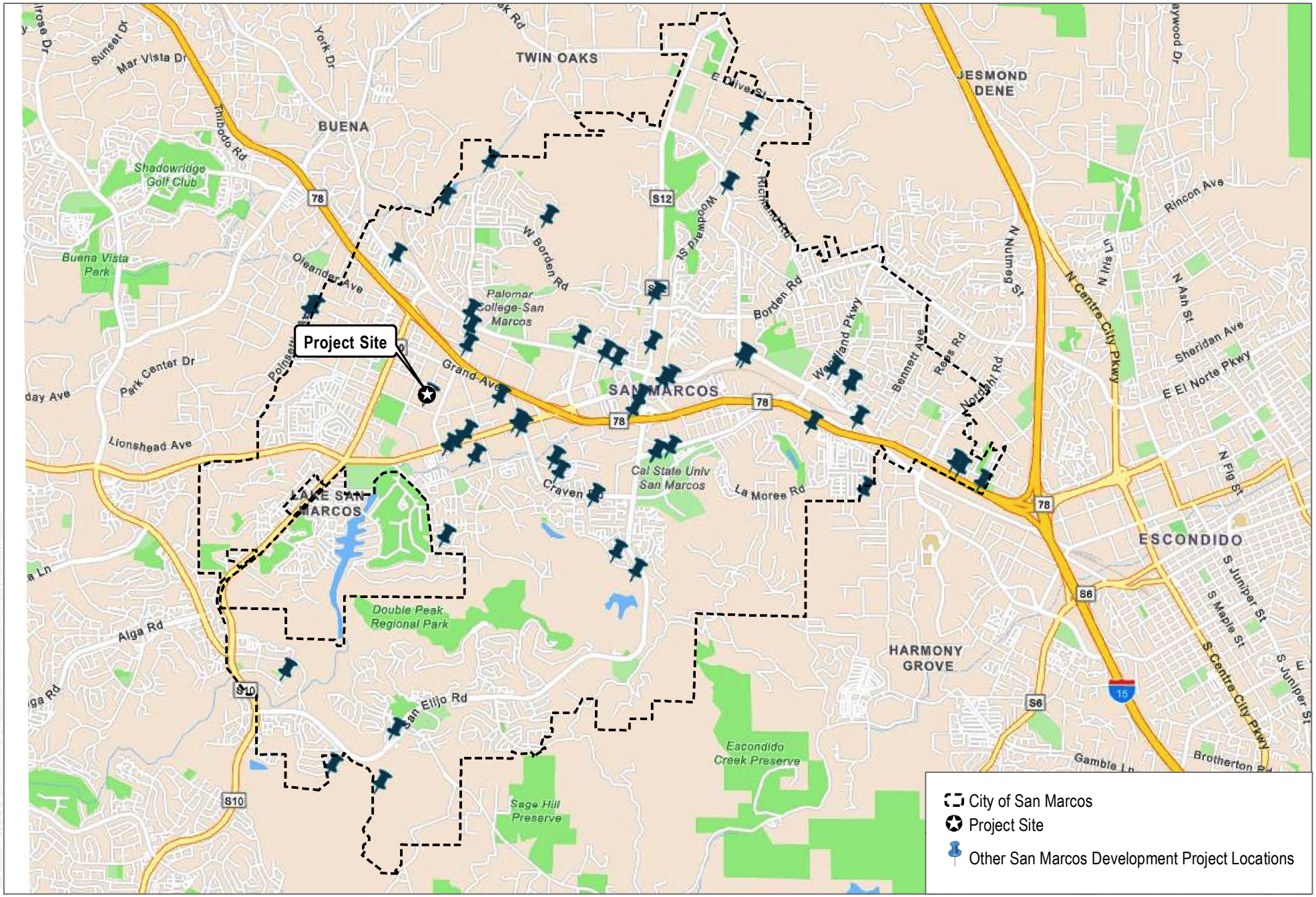

SOURCE: SANGIS 2020, 2021; City of San Marcos 2022

FIGURE 2-6

Cumulative Projects

Hughes Circuits Project Environmental Impact Report

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3 ENVIRONMENTAL ANALYSIS

3.1 AESTHETICS

This section describes the existing visual setting of the Hughes Circuits Project (project) and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project.

Table 3.1-1 summarizes the project and cumulative level aesthetics impacts, by threshold.

Table 3.1-1
Aesthetics Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 – Have a substantial adverse impact on a scenic vista.	Less than Significant	Less than Significant	Less than Significant
#2 – Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact	No Impact	No Impact
#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?	Less than Significant	Less than Significant	Less than Significant
#4 – Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than Significant	Less than Significant	Less than Significant

3.1.1 Existing Conditions

3.1.1.1 Existing Visual Resources and Environment

Scenic Highways

According to the California Department of Transportation California Scenic Highway Mapping System, the project site is not located adjacent to, or in the vicinity of, a designated state scenic highway (Caltrans 2022). The nearest officially designated state scenic highway is State Route (SR) 78. SR-78 is a designated state scenic highway from the west boundary of the Anza-Borrego Desert State Park to the east boundary of the State Park. SR-78 is located approximately 0.7 miles north of the project site; however, the portion designated as a state scenic highway begins approximately 41 miles east of the project site. The project site is located approximately 26 miles west of the closest portion of SR-78 identified as an eligible state scenic highway.

SR-52 is a designated state scenic highway from the west boundary of the Mission Trails Open Space to the east boundary of Little Sycamore Canyon. The portion designated as a state scenic highway SR-52 is located approximately 21 miles south of the project site. The nearest eligible state scenic highway is Interstate 5. The project site is approximately 6.8 miles east of the closest point of this eligible state scenic highway.

At a local level, the City of San Marcos (City) has designated SR-78 as a view corridor for its unobstructed visual passageway. The highway corridor provides views of the Merriam Mountains, little Mt. Whitney, Double Peak, California State University San Marcos, and Palomar Community College. Views of the project site from SR-78 are generally obscured from the view of motorists due to existing commercial and residential developments.

Scenic Vistas

A scenic vista is typically defined as a panoramic view or vista from an identified view/vista point, public road, public trails, public recreational areas, or scenic highways. Potential scenic views from private properties are not under consideration in this analysis, as it is not required by the City. The City's General Plan does not identify any designated scenic vistas; however, the General Plan more generally aims to protect the City's scenic resources such as the San Marcos, Merriam, and Double Peak Mountains, creek corridors, mature trees, rock outcroppings, and ocean views (City of San Marcos 2012). The project site is surrounded by urban development areas. Potential vantage points in the City include little Mt. Whitney and Franks Peak, located approximately 3 miles southeast of the project site. There is a potential for the project site to be visible from the little Mt. Whitney peak; however, this peak is accessible only by a private road and peak access is prohibited to the public. The Franks Peak summit is accessible by various public recreational trails, which could serve as potential vantage points of the project site. Views of the project site from Franks Peak and associated trails would be partially obstructed by little Mt. Whitney. Double Peak is also a prominent landform with long and broad views located approximately 2 miles southeast of the project site; however, views of the project site from Double Peak are entirely obstructed by various ridgelines.

Visual Character

The following is a description of the existing visual characteristics and quality of the project site and surroundings.

Project Site

The approximately 10.46-acre project site is vacant land that consists of Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00. The project site sits north of South Pacific Street on one side and east of South Pacific Street on the other. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to

the east. The project location and project site boundary are shown in Figures 2-1 and 2-2. The project site is immediately visible from adjacent streets and surrounding land uses.

The project site is characterized by undeveloped terrain and has no existing impervious areas. The topography within the project site is relatively flat with multiple wetlands and vegetation communities throughout; additionally, a parcel owned by the San Diego County Water Authority ~~right-of-way~~ as well as a dirt walking path bisect the site. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the project site to 535 feet above mean sea level in the northwest portion of the project site.

The undeveloped project site contains 16 vegetation communities and/or land covers were identified and categorized into three community subgroups: sensitive uplands, sensitive wetlands/riparian habitat, and non-sensitive uplands. Sensitive uplands within the review area consist of Diegan coastal sage scrub, Diegan coastal sage scrub-Baccharis dominated, non-native grassland-artichoke-thistle dominated, non-native grassland-broadleaf dominated, valley needle grassland, and wildflower fields. Sensitive wetlands/riparian habitats within the review area include Arundo-dominated riparian habitat, disturbed wetlands, emergent wetlands, San Diego Mesa claypan vernal pools, southern willow scrub, and Tamarisk scrub. Non-sensitive uplands consist of disturbed habitat and Eucalyptus woodland. Please refer to Section 3.3 of this environmental impact report (EIR) for a detailed analysis of biological resources.

Surrounding Area

The project site is immediately bordered by South Pacific Street to the west and south, vacant land to southeast, and Light Industrial properties to the north. The project site is surrounded by Light Industrial developments to the north, Commercial developments to the northeast, Industrial developments to the south, and a park to the west. Residential uses are located to the southwest of the site, south of the park. The project site is located in an urban setting and is considered an infill site. The closest freeway is SR-78, located approximately 0.7 miles north of the project site.

The existing Light Industrial developments to the north of the project site and the existing Industrial developments to the south of the project site, are characterized by one to two story buildings with white or tan smooth exteriors. The existing Commercial development to the northeast is a local mall that consists of various retail department stores and restaurants. These buildings are one to two story buildings with tan or white exteriors and with grey brick accents. The existing park to the east of the project site is Bradley Park, which is located at 1587 Linda Vista Drive and contains an arena soccer field, a ballfield, BBQs, a horseshoe court, a multi-purpose field, picnic shelters, picnic tables, and play equipment.

Existing Light and Glare Conditions

The project site is currently undeveloped and thus does not contain any existing sources of light or glare, with the exception of a streetlight on the southwest corner of the project site illuminating South

Pacific Street. Additionally, the project site does not contain any reflective surfaces that would act as sources for glare. Commercial and industrial developments surrounding the project site contain sources of lighting typical of these land uses. Sources of nighttime lighting in this area could occur from exterior building lighting, street lighting, and lighting in parking lots. No sources of substantial glare are present in this area.

3.1.2 Regulatory Setting

State

California Public Resources Code Section 20199

California Public Resources Code Section 20199 (d)(1) stipulates that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." The project does not propose a residential use, mixed-use residential, or an employment center on an infill site. This is further addressed in Section 3.1.4, Project Impact Analysis, below.

California Scenic Highway Program

The California State Legislature created the California Scenic Highway Program in 1963 with the intent "to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment." The state laws that govern the Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. A highway may be designated scenic based on the natural landscape visible by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the views of the highway. The Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. A highway may be designated as scenic based on aesthetic quality of viewable landscape, extent of views upon the natural landscape, and the degree to which development impedes these views. It is the responsibility of local jurisdictions to apply for scenic highway approval, which requires the adoption of a Corridor Protection Program (Caltrans 2022). There are no state-designated scenic highways in the vicinity of the project site.

Local

City of San Marcos General Plan

The City's Conservation and Open Space Element identifies one goal and associated policies to protect natural resources that have scenic value. Landforms such as the mountain ranges in the northern and southern portions of the City contribute to its scenic corridors. The following goal and policies from the City of San Marcos General Plan, Conservation and Open Space Element pertain to aesthetics and visual quality (City of San Marcos 2012):

- **Goal COS-3:** Protect natural topography to preserve and enhance the natural beauty of San Marcos.
    - **Policy COS-3.1:** Preserve scenic resources, including prominent landforms such as Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, Franks Peak, and canyon areas through conservation and management policies.
    - **Policy COS-3.2:** Encourage and maintain high-quality architectural and landscaping designs that enhance or complement the hillsides, ridgelines, canyons, and view corridors that comprise the visual character in San Marcos.
    - **Policy COS-3.3:** Continue to work with new development and redevelopment project applicants in designing land use plans that respect the topography, landforms, view corridors, wildlife corridors, and open space that exists.
    - **Policy COS-3.4:** Evaluate potential impacts to visual and aesthetic resources, including the potential to create new light sources, while still maintaining and being sensitive to rural lighting standards.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10.4, the project is consistent with the applicable goals and policies pertaining to aesthetics.

San Marcos Municipal Code Zoning Ordinance, Title 20

The provisions of Title 20 of the San Marcos Municipal Code are referred to as the Zoning Ordinance. The San Marcos Municipal Code Zoning Ordinance Title 20 is the primary implementation tool for the policies of the General Plan. The Zoning Ordinance provides more detailed direction related to design and development standards; permitted, conditionally permitted, and prohibited uses; and other regulations such as lighting and sign regulations. The land uses specified in the Zoning Ordinance are based upon and consistent with the land use policies set forth in the General Plan. Specifically, building design, setbacks, lighting, and signage standards as well as open space requirements for development to protect open space and ambient light levels in the City. Lighting standards of the Ordinance require

energy-efficient lighting that limits light and glare for private projects, with exceptions for specialized streetscape lighting. Private developments are required to submit lighting plans to ensure consistency with dark sky needs of the region (City of San Marcos 2022).

Title 20, Section 20.300.080, Site Planning and General Development Standards

The City of San Marcos Street Lighting Standards and Specifications describes the lighting and glare standards for the City. These standards require lighting to be directed downward and limit the type and spacing of lighting to maintain reasonable lighting levels that do not contribute to light pollution. The City uses International Dark Sky Association (IDA) thresholds to inform its own testing, leading to a policy that allows for the use of energy-efficient lighting sources that include, but are not limited to, LED and induction lighting technologies (City of San Marcos 2022).

Title 20, Chapter 20.260, Ridgeline Protection and Management Overlay Zone

The City of San Marcos adopted a Ridgeline Protection and Management Overlay Zone in November 2008, set forth in Ordinance 2008-1314, to minimize visual impacts to important ridgelines. These guiding principles are in place to protect natural viewsheds, minimize physical impacts to ridgelines, and establish innovative site and architectural design standards. The Ordinance identifies primary and secondary ridgelines within the City, plus buffer zones, or Ridgeline Overlay Zones (ROZ), surrounding these ridgelines (City of San Marcos 2022). No primary or secondary ridgelines are located within or adjacent to the project site; the nearest ridgeline is a secondary ridgeline located approximately 1.2 miles west of the project site. The nearest primary ridgeline is located approximately 1.7 miles southwest of the project site.

3.1.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if the project would:

- **Threshold #1:** Have a substantial adverse effect on a scenic vista.
- **Threshold #2:** Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
- **Threshold #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?
- **Threshold #4:** Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 Project Impact Analysis

As described in Chapter 2, Project Description, of this EIR, the project consists of development of a 67,410-square-foot light industrial building to support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. The 67,410-square-foot light industrial building includes a 56,310-square-foot first floor, and a 11,100-square-foot mezzanine. The proposed light industrial building would be located at the western-most portion of the project site, and the disturbance area associated with project construction would be limited to approximately 113,877 square feet or 2.61 acres of the 10.46-acre project site. Proposed development would only occur within Assessor's Parcel Number 219-223-20-00. The proposed light industrial building would include a fire control room, MPOE room, trash enclosure, outdoor amenity area, electrical room, and grade level loading dock. Parking for the proposed building would include 72 parking spaces, including 4 electric vehicle charging stations, 9 carpool and zero emission parking stalls, 4 accessible stalls, and 1 U.S. Postal Service parking stall. Additionally, 4 short-term bicycle parking spaces and 4 long-term bicycle parking spaces would be provided. Access to the proposed building would be provided via two new driveways along S. Pacific Street, one at the northwestern boundary of the proposed building site, and the other at the southeastern boundary of the proposed building site, as shown in Figure 2-3, Site Plan. Stormwater basins and associated landscaping would be incorporated along the perimeter of the proposed light industrial building. Approximately 60 employees would work out of the proposed light industrial building.

The project site is currently designated as Light Industrial (LI) under the City's General Plan Land Use Map and has a zoning designation of Light Industrial (L-I). The project proposes a light industrial land use, consistent with the City's land use designations for the project site.

The project site is considered an infill site within an urbanized area under CEQA, but is not located within a transit priority area such that aesthetic impacts are conclusively not significant under California Public Resources Code (PRC) Section 20199 (d)(1). As described in Section 3.1.2, Regulatory Setting, above, PRC Section 20199 (d)(1) states that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." According to this same section at Section 21099(d)(1), an "infill site" is defined as "a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses." The project site is located on a vacant lot and more than 75% of the project boundary is adjacent to "qualified urban uses" (i.e., residential and commercial) per PRC Section 21072, such that the site is an "infill site."

PRC Section 21071 defines an "urbanized area" as "(a) an incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons, or (2) Has a population of less

than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." As of 2020, the City of San Marcos has an estimated population of 94,833 (see Section 3.12, Population and Housing) (U.S. Census Bureau 2021a). While this is less than 100,000 persons, the City of San Marcos is contiguous with the City of Escondido, which has an estimated population of 151,038 persons as of 2020 (U.S. Census Bureau 2021b). The combined estimated population of these two contiguous cities would be 248,834 persons, which is well over the 100,000 persons threshold. Thus, the City of San Marcos would be considered an urbanized area per CEQA.

A "transit priority area" is defined as "an area within one-half mile of a major transit stop that is existing or planned." The nearest major transit stop is North County Transit District's Palomar College Station, located approximately 0.9 miles from the North County Transit District's Palomar College Station, and therefore just outside of the transit priority area. Additionally, the project does not propose a residential use, mixed-use residential, or an employment center on an infill site.

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

The City's General Plan does not identify any designated scenic vistas; however, the General Plan more generally aims to protect the City's scenic resources such as the San Marcos, Merriam, and Double Peak Mountains, creek corridors, mature trees, rock outcroppings, and ocean views. The project site and surrounding valley terrain are encompassed by mountains to the north, east, and south that provide opportunities for elevated vantage points offering long and broad views, which may include views of the project site. However, due to the relatively flat terrain of the project site and surrounding area, and the project site's location on an infill site in an urbanized area, development of the project is not expected to impede views of existing scenic vistas, nor is the project site considered a scenic vista. Therefore, impacts related to aesthetic impacts are considered **less than significant.**

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

The nearest officially designated state scenic highway is SR-52. The portion designated as a state scenic highway SR-52 is approximately 21 miles south of the project site. The nearest eligible state scenic highway is Interstate 5. The project site is located approximately 6.8 miles east of the closest point of this eligible state scenic highway. SR-78 is 0.64 miles north of the project site. However, the section of SR-78 proximate to the project site is not identified as a Scenic Highway per the California Department of Transportation (Caltrans) State Scenic Highways Program, although the City has designated SR-78 as a view corridor to surrounding ridgelines. Therefore, the project site is not located within a viewshed of a state scenic highway.

Additionally, a portion of SR-78 is also identified as an Eligible State Scenic Highway; however, this eligible segment begins 42 miles east of the project site in Santa Ysabel. As described above, views

of the project site from SR-78 are generally limited due to existing industrial and commercial developments. Even with development of the project, views of the surrounding hillsides and ridgelines would not be substantially obstructed from SR-78.

Further, the project site is currently undeveloped and does not support any historic buildings. There are also no rock outcroppings on site. The project site contains on-site trees that would be removed during construction; however, these trees are ornamental and are not considered a scenic resource. Therefore, implementation of the project would not substantially damage scenic resources within a state scenic highway, and **no impact** would occur.

Threshold #3: Would the project, 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?

As previously discussed, the City of San Marcos (which includes the project site) is considered an urbanized area pursuant to PRC Section 21071. Therefore, the first question of Threshold #3 does not apply to the project, as it is directed at non-urbanized areas.

The visual character of the site would be altered by the project, from vacant and undeveloped land to industrial development. While the project would change the existing visual character on the site, it is not characterized as a substantial degradation since few public vantage points of the project site exist and the site is predominately surrounded by adjacent development in a highly urbanized area. The project would not alter the existing visual character of the surrounding area and would conform to the existing urbanized character of the surrounding area and would not substantially change the views from any public viewpoint. Additionally, a landscape plan would be implemented that would soften the visual impact of the proposed industrial development from adjacent roadways and land uses. The landscape plan to be prepared for the project would require review and approval by City staff. As the project would not substantially degrade the existing visual character or quality of the site and its surroundings, impacts are considered to be **less than significant.**

Threshold #4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Lighting

Lighting in the project vicinity is associated with roadway lighting and lighting associated with the existing industrial and commercial uses that surround the project site. Development of the project would result in new sources of light from the light industrial building, landscaping lighting, security lighting, and internal circulation lighting. These proposed land uses would introduce lighting to a site that is currently undeveloped and has no existing source of lighting.

All lighting associated with the project would be required to comply with the City's Municipal Code Section 20.300.080, Light and Glare Standards. Although the project would result in new sources of light in the area, the project site is in an urbanized area and is surrounded by existing development with existing sources of day and nighttime lighting. Compliance with the City's Municipal Code would minimize and restrict nighttime light pollution and light trespass on adjacent properties. Therefore, new sources of day or nighttime lighting associated with the project would not be considered substantial, and impacts related to lighting would be considered **less than significant.**

Glare

Implementation of the project could potentially include sources of glare from architectural finishes or amenities on site. The project developer would be required by the City's Municipal Code Section 20.300.080, Light and Glare Standards, to minimize use of reflective building materials and finishes, as well as reflective lighting structures, photovoltaic panels, and metallic surfaces to the extent feasible to impede any potential-generated glare. The project would incorporate materials and finishes that would minimize the potential for glare, including set back windows, window awnings, and neutral colors for building facades. The project would not propose any features that would be characterized as creating a substantial new source of glare that would adversely affect daytime or nighttime views in the area. Project impacts related to glare would be considered **less than significant.**

3.1.5 Cumulative Impact Analysis

Projects contributing to a cumulative aesthetic impact include those within the project viewshed. The viewshed encompasses the geographic area within which the viewer is most likely to observe the project and surrounding uses. Typically, this is delineated based on topography, as elevated vantage points, such as from scenic vistas, offer unobstructed views of expansive visible landscapes.

Cumulative aesthetic impacts would occur if projects combine to result in substantial adverse impacts to the visual quality of the environment and increase sources of lighting and glare. As discussed above, the project would have no substantial impact on a scenic vista or City protected scenic resource, would not adversely impact the visual character of the area, and would not introduce a substantial new source of lighting or glare.

Although not technically designated scenic vistas, little Mt. Whitney, Franks Peak, and the adjacent prominent ridgelines are scenic resources, which the City's General Plan aims to protect and preserve for their natural visual quality. As previously discussed, the summit of little Mt. Whitney is off limits to the public, but Franks Peak and its surrounding recreational trails are publicly accessible. From Franks Peak, viewers would be able to see cumulative residential projects in the same viewshed, and potentially portions of the project site. The project would not substantially contrast with the visual patterns of the area as height and density would be consistent with the existing surrounding

development and appear as an extension of the already urbanized landscape. Therefore, the project would not substantially contribute to a cumulative change in visual character of the surrounding area.

As discussed, the nearest officially designated state scenic highway is SR-52. The portion designated as a state scenic highway SR-52 is approximately 21 miles south of the project site. The nearest eligible state scenic highway is Interstate 5. The project site is located approximately 6.8 miles east of the closest point of this eligible state scenic highway. SR-78 is located 0.64 miles north of the project site. However, the section of SR-78 proximate to the project site is not identified as a Scenic Highway per the Caltrans State Scenic Highways Program, although the City has designated SR-78 as a view corridor to surrounding ridgelines. Therefore, the project site is not located within a viewshed of a state scenic highway.

As previously described, the project site is surrounded by existing developments that contain sources of lighting typical of industrial, commercial, and residential uses. The project would introduce new sources of lighting to the project site as the project would allow for the development of industrial uses. The project site is currently undeveloped and contains no sources of light. The project and cumulative projects would have to comply with the City's Municipal Code, which would restrict light trespass into adjacent properties and ensure that new sources of lighting would not result in significant impacts. Concerning glare, implementation of the project would introduce PV panels on building rooftops, which could result in the potential for new sources of glare; however, panels are expected to be situated to avoid any potential for substantial glare to the surrounding area. The project developer, and the developers of any proposed cumulative projects would be required to minimize use of reflective building materials and finishes, as well as reflective lighting structures and metallic surfaces to the extent feasible to impede any potential-generated glare to comply with the City's Municipal Code. Impacts to light and glare from the project and cumulative projects would be minimized through compliance with applicable regulations related to light and glare and design requirements. For the reasons outlined above, cumulative impacts related to aesthetics are determined to be **less than significant**.

3.1.6 Mitigation Measures

No significant impacts to aesthetics were identified. No mitigation measures are required.

3.1.7 Conclusion

In summary, development of the project would not be built upon any primary or secondary ridgelines nor would the project substantially affect a scenic vista. The project site is not located in close proximity to a designated State Scenic Highway per the Caltrans State Scenic Highway Program. Although the City has designated SR-78 as a view corridor to surrounding ridgelines, the project would not significantly change views from SR-78, and the project would not impede views to any primary or secondary ridgelines from SR-78.

The project site is located in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality, including the scenic resource protection policies in the Conservation and Open Space Element of the City's General Plan (refer to Section 3.10). Implementation of the project would reasonably result in changes to the visual character of the site by allowing industrial development; however, impacts would be minimal to a general lack of public vantage points and a visual conformance with adjacent development. Landscaping associated with the project would also soften views of the project site from adjacent uses.

Concerning lighting and glare, the project would not include highly reflective finishes or excessive lighting. Further, any exterior night-time lighting associated with the project would be required to comply with the City's Street Lighting Standards and Specifications and Municipal Code.

It has been determined that implementation of the project would not result in any potential impacts related to aesthetics, and impacts would be less than significant with no mitigation required.

3.2 AIR QUALITY

This section evaluates the Hughes Circuits Project's (project) potential impacts on air quality and contribution to regional air quality conditions, identifies associated regulatory requirements, and recommends mitigation measures to reduce impacts to a level below significant, if appropriate. This section is based on the Air Quality and Greenhouse Gas Emissions Technical Report for the Hughes Circuits Project (Air Quality and Greenhouse Gas Emissions Technical Report) prepared by Dudek in January 2023. The complete Air Quality and Greenhouse Gas Emissions Technical Report is included as Appendix B of this environmental impact report (EIR).

Table 3.2-1 summarizes the project- and cumulative-level air quality impacts under each applicable threshold of significance.

Table 3.2-1
Air Quality Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#1 - Conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	Less than Significant	Less than Significant
#2 - Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	Less than Significant	Less than Significant	Less than Significant
#3 - Expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	Less than Significant	Less than Significant
#4 - Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than Significant	Less than Significant	Less than Significant

3.2.1 Existing Conditions

This section introduces the environmental setting of the project area, including the meteorological/climate conditions for the project area, current physical setting, and pollutant levels in proximity to the project.

Meteorological and Topographic Conditions

The project site is located within the San Diego Air Basin (SDAB) and is subject to the San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air

temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. Meteorological and topographical factors that affect air quality in the SDAB are described below.[1]

Regional Climate and Meteorological Conditions

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the west coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in degrees Fahrenheit [°F]) from the mid-40s to the high 90s, with an average of 201 days warmer than 70°F. The SDAB experiences 9 to 13 inches of rainfall annually, with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego, where San Diego receives less than normal rainfall during La Niña years.

The interaction of ocean, land, and the Pacific High maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). The winds tend to blow onshore in the day and offshore at night. Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The favorable climate of San Diego also works to create air pollution problems. Sinking, or subsiding air from the Pacific High, creates a temperature inversion known as a subsidence inversion, which acts as a "lid" to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions that result in the creation of ozone (O_3) at this surface layer. In addition, light winds during the summer further limit ventilation.

In the fall months, the SDAB is often impacted by Santa Ana winds, which are the result of a high-pressure system over the Nevada and Utah regions that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. The Santa Ana winds are powerful and can

[1] The discussion of meteorological and topographical conditions of the SDAB is based on information provided in the San Diego Air Pollution Control District's 2016 Monitoring Plan (SDAPCD 2017), the County of San Diego Guidelines for Determining Significance – Air Quality (County of San Diego 2007), the County of San Diego General Plan Update EIR (County of San Diego 2011), and the CARB Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard (CARB 2011).

blow the SDAB's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase O_3 concentrations in the San Diego area.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego can also occur within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

Topographical Conditions

Topography in the San Diego region varies greatly, from beaches in the west to mountains and desert in the east; much of the topography in between consists of mesa tops intersected by canyon areas. Along with local meteorology, topography influences the dispersal and movement of pollutants in the SDAB. Mountains to the east prohibit dispersal of pollutants in that direction and help trap pollutants in inversion layers.

The topography of the SDAB also drives pollutant levels, and the SDAB is classified as a "transport recipient," whereby pollutants are transported from the South Coast Air Basin to the north and, when the wind shifts direction, from Tijuana, Mexico, to the south.

Regional and Local Air Quality Conditions

San Diego Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the U.S. Environmental Protection Agency (EPA) classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS. Table 3.2-2 depicts the current attainment status of the project site with respect to the NAAQS and CAAQS, as well as the attainment classifications for the criteria pollutants are outlined in Table 3.2-2.

Table 3.2-2
San Diego Air Basin Attainment Status

Pollutant	Designation/Classification	
	National Standards	*State Standards*
Ozone (O_3) – 1-hour	Attainment (maintenance)[a]	**Nonattainment**
Ozone (O_3) – 8-hour	**Nonattainment (severe)**	**Nonattainment**
Nitrogen dioxide (NO_2)	Unclassifiable/attainment[b]	Attainment
Carbon monoxide (CO)	Unclassifiable/attainment	Attainment
Sulfur dioxide (SO_2)	Unclassifiable/attainment	Attainment
Respirable particulate matter (PM_{10})	Unclassifiable/attainment	**Nonattainment**
Fine particulate matter ($PM_{2.5}$)	Unclassifiable/attainment	**Nonattainment**
Lead (Pb)	Attainment	Attainment
Sulfates (SO_4)	No national standard	Attainment
Hydrogen sulfide (H_2S)	No national standard	Unclassified
Vinyl chloride	No national standard	No designation
Visibility-reducing particles	No national standard	Unclassified

Sources: EPA 2021a (national); CARB 2020 (state).
Definitions: Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
Notes: SDAB = San Diego Air Basin; O_3 = ozone; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide.
[a] The national 1-hour standard of 0.12 parts per million was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
[b] The western and central portions of the SDAB are designated attainment, while the eastern portion is designated unclassifiable/ attainment.

In summary, the EPA has designated the SDAB as a nonattainment area for the federal 8-hour O_3 standard, and the California Air Resources Board (CARB) has designated the SDAB as a nonattainment area for the state 1-hour and 8-hour O_3 standards. The SDAB has been designated as a nonattainment area for the state 24-hour and annual coarse particulate matter (PM_{10}) standards and as a nonattainment area for the state annual fine particulate matter ($PM_{2.5}$) standard. The SDAB is designated as unclassified or attainment for all other criteria air pollutants.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The SDAPCD monitors air quality conditions at 11 locations throughout the SDAB. Escondido – East Valley Parkway monitoring station cease to collect

data post-2015; thus, due to proximity to the site and similar geographic and climactic characteristics, the Camp Pendleton, San Diego-Rancho Carmel Drive, San Diego–Kearny Villa Road, and El Cajon-Lexington Elementary School monitoring station concentrations for all pollutants are considered most representative of the project site. Ambient concentrations of pollutants from 2018 through 2020 are presented in Table 3.2-3.

Table 3.2-3
Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2018	*2019*	*2020*	*2018*	*2019*	*2020*
Ozone (O_3) – Camp Pendleton									
Maximum 1-hour concentration	ppm	State	0.12	0.084	0.075	0.094	0	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.069	0.065	0.074	0	0	3
		Federal	0.070	0.068	0.064	0.074	0	0	3
Nitrogen Dioxide (NO_2) – San Diego – Rancho Carmel Drive									
Maximum 1-hour concentration	ppm	State	0.18	0.055	0.054	0.054	0	0	0
		Federal	0.100	0.055	0.054	0.054	0	0	0
Annual concentration	ppm	State	0.030	0.015	0.014	0.014	—	—	—
		Federal	0.053	0.015	0.014	0.014	—	—	—
Carbon Monoxide (CO) – San Diego – Rancho Carmel Drive									
Maximum 1-hour concentration	ppm	State	20	1.9	4.1	3.3	0	0	0
		Federal	35	1.9	4.1	3.3	0	0	0
Maximum 8-hour concentration	ppm	State	9.0	1.4	2.5	1.7	0	0	0
		Federal	9	1.4	2.5	1.7	0	0	0
Sulfur Dioxide (SO_2) – El Cajon-Lexington Elementary School									
Maximum 1-hour concentration	ppm	Federal	0.075	0.0035	0.0008	0.0017	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.0004	0.0003	0.0004	0	0	0
Annual concentration	ppm	Federal	0.030	0.0001	0.00007	0.00009	—	—	—
Coarse Particulate Matter (PM_{10})[a] – San Diego – Kearny Villa Road									
Maximum 24-hour concentration	µg/m^3	State	50	38.0	ND	ND	0.0 (0)	ND (0)	ND (0)
		Federal	150	38.0	ND	ND	0.0 (0)	ND (0)	ND (0)
Annual concentration	µg/m^3	State	20	18.4	ND	ND	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a] – San Diego – Kearny Villa Road									
Maximum 24-hour concentration	µg/m^3	Federal	35	32.2	16.2	47.5	0.0 (0)	0.0 (0)	5.8 (2)

Table 3.2-3
Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2018	*2019*	*2020*	*2018*	*2019*	*2020*
Annual concentration	µg/m^3	State	12	8.3	ND	ND	—	—	—
		Federal	12.0	8.3	7.0	8.7	—	—	—

Sources: CARB 2022; EPA 2021b.
Notes: ppm = parts per million by volume; ND = insufficient data available to determine the value; — = not available; µg/m^3 = micrograms per cubic meter.
Data taken from CARB iADAM (http://www.CARB.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
The Camp Pendleton monitoring station is located at 21441 West B Street, Camp Pendleton, California.
The San Diego-Rancho Carmel Drive monitoring station is located at 11403 Rancho Carmel Drive, San Diego, California.
The El Cajon-Lexington Elementary School monitoring station is located at 533 First Street, El Cajon, California.
The San Diego-Kearny Villa Road monitoring station is located at 6125A Kearny Villa Road, San Diego, California.
[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[2]

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's

[2] The descriptions of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2018), as well as the California Air Resources Board's "Glossary" (CARB 2019a) and "Fact Sheet: Air Pollution Sources, Effects and Control" (CARB 2009).

energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere (ground-level O_3).[3] The O_3 that the EPA and the CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

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

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

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with

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

VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016).

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

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

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

of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019d).

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

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

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

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

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

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

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

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

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead

exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

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

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

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

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

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

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

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of

California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

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

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

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

The reported number of cases in California was 7,515 cases in 2018, with the Coccidioidomycosis incidence rate of 18.8 per 100,000 population in 2018 (CDPH 2019). Valley Fever is not considered highly endemic to San Diego. Per the San Diego County Health and Human Services Agency, the 10-year average (2010–2019) for Coccidioidomycosis cases in San Diego County is 6.3 cases per 100,000 people per year. Similarly, among the total reported incidents of Valley Fever from 2010 through 2019, only 0.9% of the cases reported in San Diego County were in the San Marcos zip code that includes the project site (92078) (County of San Diego 2021).

Even if present at a site, earth-moving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The SDAPCD identifies sensitive receptors as those who are especially susceptible to adverse health effects from exposure to TACs, such as children, the older

adults, and the ill. Sensitive receptors include schools (grades Kindergarten through 12), day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (SDAPCD 2019).

The nearest existing sensitive receptors are located to the west of the project site, with multifamily residential (520 feet away) and Bradley Park (550 feet away) the most proximate.

3.2.2 Regulatory Setting

The following section provides a general description of the applicable regulatory requirements pertaining to air quality, including federal, state and local guidelines.

Federal

Federal Clean Air Act

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

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

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for hazardous air pollutants, 187 substances and chemical families were identified as hazardous air pollutants.

State

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

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All other criteria air pollutants regulated in California (e.g., sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles) are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 3.2-4.

Table 3.2-4
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as primary standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as primary standard
	Annual arithmetic mean	20 μg/m³	—	

Table 3.2-4
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as primary standard
	Annual arithmetic mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day average	1.5 µg/m³	—	—
	Calendar quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—
Sulfates	24 hours	25 µg/m³	—	—
Visibility reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; O_3 = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m³= milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

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

b National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

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

d National primary standards: the levels of air quality necessary, with an adequate margin of safety to protect the public health.

e National secondary standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

f On October 1, 2015, the primary and secondary NAAQS for O_3 were lowered from 0.075 ppm to 0.070 ppm.

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

h On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour

daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

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

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. Air pollution from commercial and industrial facilities is regulated by local air quality management districts, whereas mobile sources of air pollution are regulated by CARB and the EPA. All air pollution control districts have been formally designated as "attainment" or "nonattainment" for each state air quality standard, as shown in Table 3.2-2. Areas in California where ambient air concentrations of pollutants are higher than the state standard are considered to be in "non-attainment" status for that pollutant. Non-attainment designations are categorized into three levels of severity: (1) moderate, (2) serious, and (3) severe. If there are inadequate or inconclusive data to make a definitive attainment designation, districts are considered "unclassified."

Toxic Air Contaminants

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

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk by 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Idling of Commercial Heavy Duty Trucks (13 CCR 2485)

In July 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM prohibits idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds. The ATCM contains an exception that allows trucks to idle while queuing or involved in operational activities.

In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.)

In July 2007, CARB adopted an ATCM for in-use off-road diesel vehicles. This regulation requires that specific fleet average requirements are met for NO_x emissions and for particulate matter emissions. Where average requirements cannot be met, best available control technology requirements apply. The regulation also includes several recordkeeping and reporting requirements.

In response to AB 8 2X, the regulations were revised in July 2009 (effective December 3, 2009) to allow a partial postponement of the compliance schedule in 2011 and 2012 for existing fleets. On December 17, 2010, CARB adopted additional revisions to further delay the deadlines reflecting reductions in diesel emissions due to the poor economy and overestimates of diesel emissions in California. The revisions delayed the first compliance date until no earlier than January 1, 2014, for large fleets, with final compliance by January 1, 2023. The compliance dates for medium fleets were delayed until an initial date of January 1, 2017, and final compliance date of January 1, 2023. The compliance dates for small fleets were delayed until an initial date of January 1, 2019, and final compliance date of January 1, 2028. Correspondingly, the fleet average targets were made more stringent in future compliance years. The revisions also accelerated the phaseout of older equipment with newer equipment added to existing large and medium fleets over time, requiring the addition of Tier 2 or higher engines starting on March 1, 2011, with some exceptions: Tier 2 or higher engines on January 1, 2013, without exception; and Tier 3 or higher engines on January 1, 2018 (January 1, 2023, for small fleets).

On October 28, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulation. The amendments included revisions to the applicability section and additions and revisions to the definition. The initial date for requiring the addition of Tier 2 or higher engines for large and medium fleets, with some exceptions, was revised to January 1, 2012. New provisions also allow for the removal of emission control devices for safety or visibility purposes. The regulation also was amended to combine the particulate matter and NO_x fleet average targets under one, instead of two, sections. The amended fleet average targets are based on the fleet's NO_x fleet average, and the previous section regarding particulate matter performance requirements was deleted completely. The best available control technology requirements, if a fleet cannot comply with the fleet average requirements, were restructured and clarified. Other amendments to the regulations included minor administrative changes to the regulatory text.

In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025)

On December 12, 2008, CARB adopted an ATCM to reduce NO_x and particulate matter emissions from most in-use on-road diesel trucks and buses with a gross vehicle weight rating greater than 14,000 pounds. The original ATCM regulation required fleets of on-road trucks to limit their NO_x and particulate matter emissions through a combination of exhaust retrofit equipment and new vehicles. The regulation limited particulate matter emissions for most fleets by 2011, and limited NO_x emissions for most fleets by 2013. The regulation did not require any vehicle to be replaced before 2012 and never required all vehicles in a fleet be replaced.

In December 2009, the CARB Governing Board directed staff to evaluate amendments that would provide additional flexibility for fleets adversely affected by the struggling California economy. On December 17, 2010, CARB revised this ATCM to delay its implementation along with limited relaxation of its requirements. Starting on January 1, 2015, lighter trucks with a gross vehicle weight rating of 14,001 to 26,000 pounds with 20-year-old or older engines need to be replaced with newer trucks (2010 model year emissions equivalent as defined in the regulation). Trucks with a gross vehicle weight rating greater than 26,000 pounds with 1995 model year or older engines needed to be replaced as of January 1, 2015. Trucks with 1996 to 2006 model year engines must install a Level 3 (85% control) diesel particulate filter starting on January 1, 2012, to January 1, 2014, depending on the model year, and then must be replaced after 8 years. Trucks with 2007 to 2009 model year engines have no requirements until 2023, at which time they must be replaced with 2010 model year emissions-equivalent engines, as defined in the regulation. Trucks with 2010 model year engines would meet the final compliance requirements. The ATCM provides a phase-in option under which a fleet operator would equip a percentage of trucks in the fleet with diesel particulate filters, starting at 30% as of January 1, 2012, with 100% by January 1, 2016. Under each option, delayed compliance is granted to fleet operators who have or will comply with requirements before the required deadlines.

On September 19, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulations, including revisions to the compliance schedule for vehicles with a gross vehicle weight rating of 26,000 pounds or less to clarify that *all* vehicles must be equipped with 2010 model year emissions equivalent engines by 2023. The amendments included revised and additional credits for fleets that have downsized; implement early particulate matter retrofits; incorporate hybrid vehicles, alternative-fueled vehicles, and vehicles with heavy-duty pilot ignition engines; and implement early addition of newer vehicles. The amendments included provisions for additional flexibility, such as for low-usage construction trucks, and revisions to previous exemptions, delays, and extensions. Other amendments to the regulations included minor administrative changes to the regulatory text, such as recordkeeping and reporting requirements related to other revisions.

California Health and Safety Code Section 41700

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

Local

San Diego Air Pollution Control District

SDAPCD has prepared the 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (2020 Attainment Plan) that demonstrates how the region will further reduce air pollutant emissions in order to attain the current NAAQS for O_3. The 2020 Attainment Plan was approved by the SDAPCD on October 14, 2020. On November 19, 2020, CARB adopted the 2020 Attainment Plan for attaining the federal 8-hour 75 parts per billion and 70 parts per billion O_3 standards and projects attainment for the standards by 2026 and 2032, respectively (SDAPCD 2020). The 2020 Attainment Plan was submitted to the EPA as a revision to the California State Implementation Plan (SIP) for attaining the O_3 NAAQS.

As described in the 2020 Attainment Plan, although San Diego County has experienced substantial growth in gross regional product, population, vehicle miles traveled, and energy consumption between 2000–2018, the O_3 emission levels declined, and air quality continued to improve. Total regionwide NO_x and VOC emissions were reduced by over 60% and 50%, respectively, from 2000 to 2018. These improvements were the result of a combination of regulatory and incentive-based approaches at local, State, and federal government levels. Ongoing implementation of these strategies will continue reducing total O_3 precursor emissions as new lower emitting sources replace older, higher-emitting sources at the end of their useful lives (SDAPCD 2020).

SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The Regional Air Quality Strategy (RAQS) for the SDAB was initially adopted in 1991 and is updated every 3 years, most recently in 2016 (SDAPCD 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in San Diego County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County of San Diego (County) and the cities in the County as part of the development of their general plans.

In December 2016, SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region has reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0%, respectively; SDAPCD expects to continue reductions through 2035 (SDAPCD 2016). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOCs and 1.2 daily tons of NO_x, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal. Notably, the SDAPCD has prepared the Draft 2022 Regional Air Quality Strategy (2022 RAQS), which contains proposed and scheduled measures that would provide additional direct emission reductions of O_3 precursors, as well as indirect reductions of particulate matter and greenhouse gas emissions. The SDAPCD has adopted and/or amended seven existing measures since 2016, proposed and scheduled eight measures in the next 3 years, and proposed 14 additional measures for further study in the next 3 years. All proposed measures will further reduce air pollution beyond levels established in the 2016 RAQS. Together, the proposed control measures scheduled for consideration are estimated to reduce VOC emissions by approximately 0.04 tons per day and NO_x emissions by 0.59 tons per day (SDAPCD 2022).

In regard to particulate matter emissions reduction efforts, in December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

In addition to SDAPCD's regional planning efforts, the following SDAPCD rules and regulations also would apply to the project:

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.7: Cutback and Emulsified Asphalts.** This rule prohibits manufacturers, distributors, and end users of cutback and emulsified asphalt materials for the paving, construction or maintenance of parking lots, driveways, streets and highways from applying asphalt material or road oils that contain more than 0.5% by volume VOCs that evaporate at 260°C (500°F) or less (SDAPCD 1979).

San Diego Association of Governments

SANDAG is the regional planning agency for the County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for the County. With respect to air quality planning and other regional issues, SANDAG has prepared San Diego Forward: The Regional Plan (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan combines the big-picture vision for how the region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy, is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050. The Regional Plan was updated in 2021, which was the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies (SANDAG 2021). The 2021 Regional Plan includes a Sustainable

Communities Strategy, which describes coordinated transportation and land use planning that exceeds the state's target for reducing per-capita greenhouse gas emissions set by CARB. The state-mandated target is a 19% reduction—compared with 2005—in per-capita greenhouse gas emissions from cars and light-duty trucks by 2035. The 2021 Regional Plan achieves a 20% reduction by then. The 2021 Regional Plan also puts forth a forecasted development pattern that is driven by regional goals for sustainability, mobility, housing affordability, and economic prosperity.

City of San Marcos General Plan

The City of San Marcos (City) General Plan (City of San Marcos 2012) includes various policies related to reducing air pollutant emissions. Applicable policies include the following:

Land Use and Community Design Element

- **Goal LU-2:** Promote development standards and land use patterns that encourage long-term environmental sustainability.
    - **Policy LU-2.1**: Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
- **Goal LU-3:** Develop land use patterns that are compatible with and support a variety of mobility opportunities and choices.
    - **Policy LU-3.1**: Require that new development and redevelopment incorporate connections and reduce barriers between neighborhoods, transit corridors, and activity centers within the City.

Mobility Element

- **Policy M-2.1**: Work with new development to design roadways that minimize traffic volumes and/or speed, as appropriate within residential neighborhoods; while maintaining the City's desire to provide connectivity on the roadway network.

- **Goal M-3** Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs), and walking, within the City.

Conservation and Open Space Element

- **Policy COS-4.6**: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.
- **Policy COS-4.8**: Encourage and support the generation, transmission and use of renewable energy.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning, and throughout Chapter 3, Environmental Analysis, of this EIR.

3.2.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the project would:

- **Threshold #1:** Conflict with or obstruct implementation of the applicable air quality plan.
- **Threshold #2:** Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **Threshold #3:** Expose sensitive receptors to substantial pollutant concentrations.
- **Threshold #4:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the project would have a significant impact on air quality.

County of San Diego and SDAPCD

Neither the City nor the SDAPCD have developed CEQA thresholds of significance for air quality; however, the County has established CEQA screening-level thresholds for air quality impact analyses based on the SDAPCD Air Quality Impact Assessments trigger levels, which are based on emissions levels identified under the New Source Review program. As part of its air quality permitting process, SDAPCD has established thresholds in Rule 20.2 and Rule 20.3 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources (non-major and major stationary sources, respectively) (SDAPCD 2020, 2021). SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Because SDAPCD Rules 20.2 and 20.3 do not identify a VOC threshold, the County of San Diego established a VOC threshold based on the South Coast Air Quality Management District's VOC threshold.

For CEQA purposes, the screening-level thresholds established by the County of San Diego can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality for projects within San Diego County. Accordingly, the thresholds listed in Table 3.2-5 are used to evaluate whether project-related emissions could cause a significant impact on air quality. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 3.2-5, the

project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus, could have a significant impact on the ambient air quality; conversely, emissions below the screening-level thresholds would not cause a significant impact. A project that involves a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

Table 3.2-5
Air Quality Significance Thresholds

Construction and Operational Emissions			
	Total Emissions		
Pollutant	*Pounds per Hour*	*Pounds per Day*	*Tons per Year*
Respirable particulate matter (PM_{10})	—	100	15
Fine particulate matter ($PM_{2.5}$)	—	55	10
Oxides of nitrogen (NO_x)	25	250	40
Sulfur oxides (SO_x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	—	3.2	0.6
Volatile organic compounds (VOC)	—	75[a]	13.7

Source: SDAPCD Rules 20.2(d)(2) and 20.3(d)(2).

[a] VOC threshold based on South Coast Air Quality Management District (SCAQMD) levels for Coachella Valley, which have similar federal and state attainment status to San Diego.

Approach and Methodology

Construction Emissions

Emissions from the construction phase of the project were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0 (CAPCOA 2021). For purposes of estimating project emissions, and based on information provided by the project applicant, it is assumed that construction of the project would commence in September 2023[4] and would last approximately 12 months, ending in August 2024. Please see Appendix B for detailed construction scenario assumptions, including phasing, equipment mix, and vehicle trips, which were based on information provided by the project applicant and CalEEMod default values when project specifics were not known.

Construction of project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. This rule requires that construction of project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009b). Compliance with Rule 55 would limit fugitive

[4] The analysis assumes a construction start date of September 2023, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and greenhouse gas emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. To reflect implementation of proposed dust control strategies, it was assumed that the exposed areas would be watered two times per day (55% reduction in PM_{10} and $PM_{2.5}$). In addition, the project applicant has committed that all diesel-powered off-road equipment over 50 horsepower will meet the U.S. EPA Tier 4 Final emission standards for off-road equipment, which is included in the analysis as Project Design Feature (PDF) AQ-1. Finally, as specified in PDF-AQ-2, only low-VOC architectural coatings (i.e., no more than 50 grams per liter VOC) will be used for the interiors and exteriors of the buildings.

Operational Emissions

Emissions from the operational phase of the project were estimated using CalEEMod Version 2020.4.0 for mobile sources (vehicular traffic); energy sources from natural gas usage; area sources (including the use of landscaping equipment, consumer products, and from architectural coatings); and off-road equipment (one CNG forklift). Please see Appendix B for detailed operational scenario assumptions for these sources. Operational year 2025 was assumed as the first full year after completion of project construction.

Project Design Features

PDFs that are relevant to the air quality analysis are presented below. This impact analysis assumes that all PDFs would be implemented as conditions of approval, as defined below.

PDF-AQ-1. The project applicant will employ off-road equipment that meets the U.S. EPA's Tier 4 Final emission standards for nonroad engines over 50 horsepower.

PDF-AQ-2. The project applicant will use low-VOC architectural coatings (i.e., no more than 50 grams per liter VOC content) for building interiors and exteriors.

3.2.4 Project Impact Analysis

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

As mentioned in Section 3.2.2, Regulatory Setting, above, the SDAPCD is responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the SIP and RAQS.[5] SANDAG is responsible for developing forecasts and data that are used by SDAPCD in preparing the SIP and RAQS. The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2012. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the basin based on the NAAQS. The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality

[5] For the purpose of this discussion, the relevant federal air quality plan is the Ozone Maintenance Plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of State air quality planning. Both plans reflect growth projections in the basin.

standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

While the SDAPCD and City do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality does discuss conformance with the RAQS (County of San Diego 2007). The guidance indicates that, if the project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for the City, the project would not be in conflict with the RAQS (County of San Diego 2007). If a project includes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality.

The project site is designated as Light Industrial (LI) in the City's General Plan and is zoned Light Industrial (L-I). The project would be consistent with these designations. As described in Section 3.12, Population and Housing, the City of San Marcos is forecasted to grow from 94,258 persons and 41,096 employees in 2016 to 119,098 persons and 63,031 employees in 2050, which is a population and employment increase of 24,840 and 21,935, respectively (SANDAG 2021). As such, the project-related increase of approximately 60 employees would represent a nominal percentage of the City's projected future population and employees. Additionally, the project would not induce population growth to the area. Per CEQA Guideline Section 15206(b), the project would not be considered regionally significant because it would not have the potential to substantially affect housing, employment, or population projections within the San Diego region, which are the basis of the RAQS projections. As such, the project would not conflict with or obstruct implementation of the RAQS. Furthermore, the project would not result in substantial construction or operational emissions that would conflict with the local air quality plan.

Therefore, implementation of the project would not conflict with the RAQS or SIP and proposed development would be consistent with the growth in the region. Impacts would be **less than significant**.

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

Past, present, and future development projects may contribute to the SDAB adverse air quality impacts on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and

implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the applied significance thresholds, it would have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Construction and operation of the project would result in emissions of criteria air pollutants, which may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SDAB is designated as nonattainment under the NAAQS or CAAQS. As discussed previously, the SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The following discussion quantitatively evaluates potential short-term construction and long-term operational impacts that would result from implementation of the project.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings and asphalt pavement application) and off-site sources (i.e., on-road haul trucks, delivery trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emissions levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts.

As discussed under Section 3.2.3, Thresholds of Significance, criteria air pollutant emissions associated with construction activity were quantified using CalEEMod (CAPCOA 2021). Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2023–2024). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the applicant or CalEEMod defaults and are intended to represent a reasonable scenario based on the best information available. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles. Notably, as outlined in PDF-AQ-1, the project applicant will employ off-road equipment that meets the U.S. EPA's Tier 4 Final emission standards for nonroad engines over 50 horsepower.

Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from grading and site preparation activities. The project would be required to comply with SDAPCD Rule 55, Fugitive Dust Control, and Rule 50, Visible Emissions. These rules require that the project take steps to restrict visible emissions and fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) generated during grading and construction activities. To account for dust control measures

in the calculations, it was assumed that the project would ensure that active sites be watered at least two times daily. The application of architectural coatings, such as exterior application/interior paint and other finishes would produce VOC emissions; however, per PDF-AQ-2, only low-VOC coatings will be used for the building interiors and exteriors. The contractor would also be required to comply with the requirements of SDAPCD's Rule 67.7, Cutback and Emulsified Asphalt, which would limit VOC emissions from asphalt off-gassing.

Table 3.2-6 presents the estimated maximum daily construction emissions generated during construction of the project. Details of the emission calculations are provided in Appendix B.

Table 3.2-6
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions - Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
2023	1.14	49.40	24.05	0.23	10.09	3.70
2024	33.30	5.98	16.90	0.03	0.74	0.33
Maximum daily emissions	**33.30**	**49.40**	**24.05**	**0.23**	**10.09**	**3.70**
Emission threshold	75	250	550	250	100	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. Although not considered mitigation, these estimates reflect the "mitigated" CalEEMod results in order to account for SDAPCD Rule 55 - Fugitive Dust Control, assuming watering of the project site two times per day, use of low-VOC architectural coatings (i.e., no more than 50 grams per liter VOC content) for building interiors and exteriors, and that all diesel-powered off-road equipment over 50 horsepower would meet Tier 4 Final emission standards.

As shown in Table 3.2-6, maximum daily construction emissions would not exceed the significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction.

Operational Emissions

Following the completion of construction activities, the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicular traffic; energy sources from natural gas usage; area sources, (including the use of landscaping equipment, consumer products, and from architectural coatings); and off-road equipment (one CNG forklift). As discussed in Section 3.2.3, under Operational Emissions, pollutant emissions associated with long-term operations were quantified using CalEEMod using a combination of project-specific information and CalEEMod default values (CAPCOA 2021).

Table 3.2-7 presents the maximum daily area, energy, and mobile source emissions associated with project operation. Details of the emission calculations are provided in Appendix B.

Table 3.2-7
Estimated Operational Criteria Air Pollutant Emissions - Unmitigated

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
Area	1.55	<0.01	0.01	0.00	<0.01	<0.01
Energy	0.01	0.07	0.06	<0.01	0.01	0.01
Mobile	0.50	0.88	9.60	0.04	4.47	1.20
Off-road	0.04	1.92	19.12	<0.01	0.04	0.04
Total	**2.10**	**2.86**	**28.79**	**0.04**	**4.51**	**1.24**
Emission Threshold	75	250	550	250	100	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; <0.01 = reported value less than 0.01; negative values are presented in parentheses.
See Appendix B for complete results. Totals may not sum due to rounding.

As shown in Table 3.2-7, the maximum daily emissions of the project would not exceed the significance thresholds for any criteria air pollutants.

As discussed within Section 3.2.1, Existing Conditions, under Regional and Local Air Quality Conditions, the SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SDAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction and operation of the project would generate VOC and NO_x emissions (which are precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. However, as indicated in Tables 3.2-6 and 3.2-7, project-generated construction and operational emissions would not exceed the emission-based significance thresholds for VOC, NO_x, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the project area are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative. However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation if the project would exceed applied thresholds. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SDAPCD. For example, cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SDAPCD Rule 55 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SDAB. In addition, cumulative VOC emissions would be subject to SDAPCD Rule 67.0.1, Architectural Coatings.

Based on the project-generated construction and operational emissions of VOC, NO_x, PM_{10}, and $PM_{2.5}$, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants. Therefore, the project's cumulative air quality impact would be **less than significant**.

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

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts on those persons termed "sensitive receptors" are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, older adults, athletes, and people with cardiovascular and chronic respiratory diseases; however, for the purposes of this analysis, residents are also considered sensitive receptors. As such, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. As described previously, the nearest existing sensitive receptors are located to the west of the project site, with multifamily residential (520 feet away) and Bradley Park (550 feet away) the most proximate.

Health Impacts of Carbon Monoxide

Mobile source impacts occur on two scales of motion. Regionally, project-related travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, project generated traffic would be added to the County's roadway system near the project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

CO transport is extremely limited and CO disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with urban roadways or intersections operating at an unacceptable level of service. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots.

To verify that the project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted using the County of San Diego screening

threshold of 3,000 peak trips (County of San Diego 2007). The trip rates for the project are based on driveway counts for the existing Hughes Circuits facility conducted by Chen Ryan in March 2022. Based on this data, there would be approximately 40 trips during the AM peak hour and 43 trips during the PM peak hour, which would be minimal in comparison to the screening threshold of 3,000 peak trips. Therefore, the project would not result in a CO hotspot and would result in a **less than significant** impact.

Health Effects of Other Criteria Air Pollutants

Project construction and operation would not exceed significance thresholds for VOC, NO_x, CO, SO_x, $PM_{10,}$ or $PM_{2.5}$. VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of reactive organic gases and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 CAAQS/NAAQS tend to occur April through October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of reliable and meaningful quantitative methods to assess this impact. The project would not exceed the significance thresholds for VOC or NO_x; therefore, implementation of the project would contribute minimally to regional O_3 concentrations and the associated health effects.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, project construction would be relatively short term, and off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Because project generated NO_x emissions would not exceed the significance threshold, the project would not result in potential health effects associated with NO_2 and NO_x.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and were determined to be a less-than-significant impact. Furthermore, the existing CO concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct

the SDAB from coming into attainment for these pollutants. Additionally, the project would implement dust control strategies and be required to comply with SDAPCD Rule 55, Fugitive Dust Control, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction and operation, the project is not anticipated to result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be **less than significant**. Furthermore, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs. The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. The following measures are required by state law to reduce DPM emissions:

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

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends an incremental cancer risk threshold of 10 in a million (SDAPCD 2015b). "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). The project would not require the extensive operation of heavy-duty

construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions and would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure. Furthermore, the project would implement PDF-AQ-1, which requires all equipment greater than 50 horsepower to be Tier 4 Final compliant, which can reduce construction diesel exhaust by 93% to 96% compared to equipment with engines meeting Tier 1 or Tier 2 emission standards.[6]

As shown in Table 3.2-6, maximum daily PM_{10} or $PM_{2.5}$ emissions generated by construction equipment operation and haul-truck trips during construction, which is based on exhaust and fugitive dust generated by equipment operation and vehicle travel, would be well below the significance thresholds. Moreover, total construction of the project would last approximately 12 months, after which project-construction TAC emissions would cease. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. In regard to long-term TAC emissions, the project would result in a minimal increase in daily truck traffic on the roadway network and would not require stationary sources (such as diesel emergency generators). Therefore, the exposure of project-related TAC emission impacts to proximate sensitive receptors would be **less than significant**.

Valley Fever

As discussed above in Section 3.2.1, the average incidence rate within the County is below the statewide average. Furthermore, construction of the project would comply with SDAPCD Rule 55, Fugitive Dust Control, which limits the amount of fugitive dust generated during construction. SDAPCD Rule 55 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. Based on the low incidence rate of coccidioidomycosis on the project site and in the County, and with the project's implementation of dust control strategies, it is not anticipated that earth-moving activities during project construction would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the project would have a **less-than-significant** impact with respect to Valley Fever exposure for sensitive receptors.

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

Based on available information, the project is not anticipated to result in other emissions that have not been addressed under Threshold 1 through Threshold 3 above. As such, this analysis focuses on

[6] Particulate matter (PM) emissions benefits are estimated by comparing off-road PM emission standards for Tier 1 and Tier 2 with Tier 4 final emissions standards. Tier 1 PM emissions standards were established for equipment with 25 -< 50 horsepower and equipment with horsepower < 175. Tier 1 emissions standards for these engines were compared against Tier 4 Final emissions standards, resulting in a 96% reduction in PM. The U.S. EPA established PM standards for engines with horsepower between 50 -< 175 as part of the Tier 2 emission standards. For these engines Tier 2 emissions standards were compared against Tier 4 Final emissions standards, resulting in between 93% and 95% reduction in PM.

the potential for the project to generate odors. The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints. Odors would also be controlled through compliance with SDAPCD Rule 51 (Nuisance), which prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be **less than significant**.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project would not engage in any of these activities. Therefore, the project would result in an odor impact that is **less than significant**.

3.2.5 Cumulative Impact Analysis

See Threshold #2 in Section 3.2.4, Project Impact Analysis, above, for a detailed discussion of the project's cumulative air quality impacts. In analyzing cumulative impacts from the project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the basin is designated as nonattainment for the CAAQS and NAAQS.

Implementation of the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants. Therefore, cumulative impacts would be **less than significant**.

3.2.6 Mitigation Measures

The project would not result in significant impacts; therefore, no mitigation is required.

3.2.7 Conclusion

The project would be consistent with the land use and zoning designation of the project site. The project's proposed growth would be within the growth projections for the City and, at a regional level, the project is consistent with the underlying growth forecasts in the SIP and RAQS. Therefore, implementation of the project would not conflict with the RAQS or SIP and proposed development would be consistent with the growth in the region.

Implementation of the project also would not violate any air quality standards or contribute substantially to an existing or projected air quality violation during construction or operation. Additionally, the project would not expose sensitive receptors to substantial pollutant concentrations or expose a substantial number of people to objectionable odors. In summary, impacts with regard to air quality would be less than significant, and no mitigation is required.

3.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources of the Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project. This section is based on the Biological Resources Technical Report, prepared by Dudek in September 2022, which is included as Appendix C to this environmental impact report (EIR).

Table 3.3-1 summarizes the project- and cumulative-level biological resource impacts, by threshold.

Table 3.3-1
Biological Resources Summary of Impacts

Threshold of Significance	Project Impact	Project Cumulative Impact	Significance Determination
#1 - 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.	Potentially Significant	Less than Significant with Mitigation	Less than Significant with Mitigation
#2 - 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.	Potentially Significant	Less than Significant with Mitigation	Less than Significant with Mitigation
#3 - 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.	Potentially Significant	Less than Significant with Mitigation	Less than Significant with Mitigation
#4 - 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	Less than Significant	Less than Significant
#5 - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than Significant	Less than Significant	Less than Significant
#6 - Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less than Significant	Less than Significant	Less than Significant

3.3.1 Existing Conditions

The 10.86-acre project site consists of one undeveloped lot on two parcels (Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00). Off-site improvements total 0.28 acres. Although undeveloped, the project site reflects a history of disturbance. The on-site land use is currently unoccupied and undeveloped apart from two 100-foot-wide parcels ~~an approximately 108-foot-wide San Diego County Water Authority dirt right-of-way lane~~ owned by the San Diego Water Authority bisecting the project property. The project site consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities.

The project site is immediately adjacent to roadways. The site is located at the northeast corner of South Pacific Street. South Pacific Street abuts the site's western and southern boundary. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east.

Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the review area to 535 feet above mean sea level in the northwest portion of the review area. The U.S. Department of Agriculture Soil Survey mapped the project area as predominantly underlain by the following soil types: Las Flores loamy fine sand, 2% to 9% slopes (LeC) and Placentia sandy loam, thick surface, 0% to 2% slopes (PfA), which are both listed as hydric soils (USDA 2020a, 2021) (Appendix C).

3.3.1.1 Planning Context

The City of San Marcos (City) Subarea Habitat Conservation Plan/Natural Community Conservation Plan (NCCP) (Subarea Plan) has not been finalized or implemented, and the City is no longer an active participant in the NCCP program and the subregional Multiple Habitat Conservation Program (MHCP) conservation planning effort. However, it is the City's policy to comply with the conservation policies identified in the Draft San Marcos Subarea Plan, including an assessment of designated Biological Core Linkage Area or MHCP Focused Planning Area in the context of the project. In addition, the project will be evaluated to ensure consistency with the California Environmental Quality Act (CEQA).

The City of San Marcos Municipal Code was reviewed and contains additional environmental standards for the City environmental review process in Title 18, which defines how the City will define environmental protection and the steps thereafter (Appendix C). The site is designated as Light Industrial in the General Plan (City of San Marcos 2012).

3.3.1.2 Vegetation Communities

Thirteen vegetation communities or land cover types occur within the project site: Arundo-dominated riparian, disturbed wetland, emergent wetland, San Diego mesa claypan vernal pool, southern willow scrub, tamarisk scrub, valley needlegrass grassland, wildflower field, Diegan coastal sage scrub,

Diegan coastal sage scrub-Baccharis dominated, non-native grassland (broadleaf dominated), eucalyptus woodland, and disturbed habitat (see Table 3.3-2, Existing Vegetation Communities and Land Cover Types). Vegetation community locations on the project site can be seen in Figure 3.3-1, Vegetation Communities and Land Covers.

Table 3.3-2
Existing Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover	On-Site Acreage	Off-Site Acreage
Group A. Wetlands Communities		
Arundo-Dominated Riparian	0.11	0.01
Disturbed Wetland	0.11	0
Emergent Wetland	0.59	0
San Diego Mesa Claypan Vernal Pool	0.43	0
Southern Willow Scrub	0.03	0
Tamarisk Scrub	0.58	0
Subtotal Group A. Wetlands Communities	*1.84*	*0.01*
Group B. Rare Uplands		
Valley Needlegrass Grassland	3.63	0
Wildflower Field	1.90	0
Subtotal Group B. Rare Uplands	*5.53*	*0*
Group C. Coastal Sage Scrub		
Diegan Coastal Sage Scrub	1.08	0.01
Diegan Coastal Sage Scrub—Baccharis-dominated	1.48	0.04
Subtotal Group C. Coastal Sage Scrub	*2.56*	*0.05*
Group D. Annual Grasslands		
Non-native Grassland—Broadleaf-Dominated	0.07	0
Subtotal Group D. Annual Grasslands	*0.07*	*0*
Group F. Other Lands		
Disturbed Habitat	0.61	0.22
Eucalyptus Woodland	0.25	0
Subtotal Other Lands	*0.86*	*0.22*
Total*	**10.86**	**0.28**

Note:
* Totals may not sum due to rounding

Arundo-Dominated Riparian

Arundo-dominated riparian thickets are dominated almost exclusively by giant reed (*Arundo donax*). This designation is only used when giant reed accounts for greater than 50% of the total vegetative cover within a mapping unit. Site factors include loose, sandy, or fine gravelly alluvium near streams or channels. Typically, giant reed occurs along major rivers of coastal Southern California (Oberbauer et al. 2008). Arundo-dominated riparian on site consists of almost 100% cover of giant reed with no other plant diversity where it occurs. The edges of the *Arundo* community consist of iceplant

(*Carpobrotus edulis*). *Arundo*-dominated riparian occupies 0.11 acres on site and 0.01 acres off site (Appendix C).

Disturbed Wetland

Disturbed wetlands are areas permanently or periodically inundated by water that have been significantly modified by human activity. This includes portions of wetlands with obvious artificial structures such as concrete lining, barricades, riprap, piers, or gates. Often unvegetated, areas may contain scattered native or non-native vegetation. Characteristic species include saltcedar (*Tamarix* spp.), eucalyptus (*Eucalyptus* spp.), palms (*Phoenix* spp. and *Washingtonia* spp.), and pampas grass (*Cortaderia* spp.). Disturbed wetland on site consists of riprap and barricades, likely set up by transients to the area. A few hottentot-fig are also found within this area. The disturbed wetland also contains patches of annual beard grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and a variety of willowherb (*Epilobium* spp.). Disturbed wetland occupies 0.11 acres on site (Appendix C).

Emergent Wetland

Emergent wetlands are generally persistent wetlands that are dominated by low-growing perennial wetland species. Emergent wetlands can be found in channels, seeps, springs, floodplains, margins of lakes or rivers, and various basins such as pools, ponds, meadows, and dune swales. They may be freshwater or alkali wetlands. Associated species include sedge (*Carex* spp.), spikerush (*Eleocharis* spp.), rush (*Juncus* spp.), dock (*Rumex* spp.) and a variety of others. Emergent wetlands are found throughout San Diego County in areas that are wet (Oberbauer et al. 2008).

Emergent wetland is found next to the tributary on the eastern side of the project site where the tributary consistently overflows. The emergent wetland is dominated by pale spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), and iris-leaf rush (*J. xiphioides*). Less commonly found within the emergent wetland are curly dock and alkali mallow (*Malvella leprosa*). On the far western side of the project site, the emergent wetland consists almost entirely of Mexican rush and broad-leaved cattail (*Typha latifolia*). Pickleweed (*Salicornia pacifica*) flats occupy portions of this emergent alkali wetland. This community on site is best described as pickleweed flats because no other species occur in this section. Emergent wetland occupies 0.59 acres on site (Appendix C).

San Diego Mesa Claypan Vernal Pool

Vernal pools are seasonally flooded depressions that support a distinctive living community adapted to extreme variability in hydrologic conditions (e.g., seasonally very dry and very wet conditions). Functional vernal pools have an impermeable (or nearly impermeable) soil or subsoil layer, which prevents water from percolating downward causing rainfall inputs and/or surface runoff to become trapped or 'perched' above the impermeable (or nearly impermeable) soil or subsoil layer of the pool feature. Although vernal pools are often associated with hummocks or mima-mounds, this feature is

not always present. Vernal pools can be differentiated from other temporary wetlands by the following criteria: (1) the basin is at least partially vegetated during the normal growing season or is unvegetated due to heavy clay or hardpan soils that do not support plant growth; and (2) the basin contains at least one vernal pool indicator species (e.g., woolly-marbles [*Psilocarphus* spp.], toothed calicoflower [*Downingia cuspidata*], San Diego button-celery [*Eryngium aristulatum* var. *parishii*], or crustaceans [*Branchinecta* spp., *Streptocephalus* spp., and others]) (Oberbauer et al. 2008).

Because vernal pool plants and animals are restricted to vernal pool ecosystems, presence or absence of the above-mentioned plant and animal species can define a vernal pool. Many of the extant vernal pools are threatened by grazing, invasive weeds, fragmentation, vehicular traffic, and urbanization. This vegetation community is considered sensitive by various local, state, and federal resource agencies including the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS).

The site has distinctive mima-mound formation with lower areas having vernal pools and each vernal pool documented thus far has several vernal pool/wetland indicator species present. Due to time constraints, all vernal pools are not mapped on site. The following species were found within the vernal pools documented on site for this reconnaissance survey: San Diego button celery federally and state endangered), spreading navarretia (*Navarretia fossalis;* federally threatened), Mexican rush), irisleaf rush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), pale spikerush, toad rush (*Juncus bufonius*), and smooth boisduvalia (*Epilobium campestre*). Some of the vernal pools had an abundance of San Diego button celery where populations were expanding outside the vernal pool basins. San Diego Mesa Claypan Vernal Pool complex occurs across the central and eastern portions of the site and occupies 0.43 acres (Appendix C).

Southern Willow Scrub

Southern willow scrub is a dense broad-leafed, winter deciduous vegetation community. The riparian thickets where southern willow scrub is found are dominated by willow (*Salix* spp.) with scattered emergent western sycamore (*Platanus racemosa*) and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Stands are too dense for understory species. Site factors include loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows (Oberbauer et al. 2008).

Southern willow scrub on site is dense and lacks understory species. Southern willow scrub is near the sidewalk and contiguous to the tributary on the western side of the site. The willow species that dominates this vegetation community is red willow (*Salix laevigata*). Southern willow scrub occupies 0.03 acres on site (Appendix C).

Tamarisk Scrub

Tamarisk scrub is a weedy, virtual monoculture of any of several tamarisk species. Tamarisk usually supplants native vegetation following disturbance. Typically, tamarisk scrub creates a braided wash or is found in intermittent streams, often in areas where high evaporation increases the streams saltiness. Tamarisk is a strong phreatophyte and a prolific seeder. This makes tamarisk a strong competitor to other wetland species (Oberbauer et al. 2008).

The tamarisk on site dominates the tree canopy creating a monoculture. However, a variety of herbs are found in the understory of the tamarisk on site. The ground is composed of herbaceous wetland species. The most abundant is rabbit's foot grass, and in some sections, pickleweed. Tamarisk scrub vegetation occupies 0.58 acres on site (Appendix C).

Valley Needlegrass Grassland

Valley needlegrass grassland is a grassland with perennial tussock formed by needlegrass (*Stipa* spp.). Native and introduced annuals occur between the perennials and often exceed the bunchgrass cover. In San Diego County, native perennial herbs such as sanicle (*Sanicula* spp.), checkerbloom (*Sidalcea* spp.), blue-eyed grass (*Sisyrinchium* spp.), poppy (*Eschscholzia* spp.), and goldfields (*Lasthenia* spp.) are present. The percent cover of native species at any one time may be quite low but an area is considered native grassland if 20% aerial cover of native species is present. Valley needlegrass grassland usually occurs on fine-textured clay soils, moist or even waterlogged soils but can be very dry over the winter (Oberbauer et al. 2008).

The valley needlegrass grassland makes up the mima-mound formations on site and other open areas. This community is covered with patches of purple needlegrass (*Stipa pulchra*), native annuals including western blue-eyed grass (*Sisyrinchium bellum*), goldenstar (*Bloomeria* spp.) and brodiaea (*Brodiaea* spp.), and non-native redstem stork's bill (*Erodium cicutarium*). In addition, a variety of tarplants (*Holocarpha* spp.) are also present throughout the needlegrass fields. Valley needlegrass grassland dominated habitat occupies 3.63 acres on site (Appendix C).

Wildflower Field

Wildflower fields are an amorphous composition of mostly native, herb-dominated types of wildflowers. Wildflower fields can be noted for conspicuous annual wildflower displays. Dominance varies from site to site and from year to year at a particular site. In San Diego County, wildflower fields can be associated with creosote bush (*Larrea tridentata*) scrub, wet meadows, foothill or perennial grassland, and coastal mesas (Oberbauer et al. 2008). On site, wildflower fields are dominated by a variety of wildflowers including those in the Themidaceae family, such as goldenstar and brodiaea species. In addition, blue-eyed grass, small-flowered morning glory (*Convolvulus simulans*), and graceful tarplant (*Holocarpha virgata ssp. elongata*) take up large sections of the wildflower fields. Few non-native

species occur in these areas, and many of these wildflowers are rare species. Wildflower fields occupy 1.90 acres on site (Appendix C).

Diegan Coastal Sage Scrub

Diegan coastal sage scrub is a native vegetation community that, according to Oberbauer et al. (2008), is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages *(Salvia* spp.)—with scattered evergreen shrubs, including lemonade berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). The average height of coastal sage scrub reaches 3 to 4 feet.

Diegan coastal sage scrub occurs within the central and eastern sections of the site. Dominant species on site include deerweed (*Acmispon glaber*), Menzies' goldenbush (*Isocoma menziesii*), and blue-eyed grass. Less commonly occurring species include California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Diegan coastal sage scrub occupies 1.08 acres on site and 0.01 acres off site (Appendix C).

Diegan Coastal Sage Scrub-Baccharis Dominated

The Diegan coastal sage scrub–Baccharis dominated vegetation community is similar to coastal sage scrub but is dominated by baccharis (*Baccharis* spp.). This vegetation community usually occurs where soils are nutrient poor and disturbance is present, where it typically fills in areas after high levels of disturbance (Oberbauer et al. 2008).

This vegetation community exists within the far eastern section of the site and near the southcentral portion of the site in greatest abundance. Broom baccharis (*Baccharis sarothroides*) makes up approximately 80% of the vegetation within this community on site. The understory of this community consists of a variety of other species. Less commonly occurring species occurring within the understory of broom baccharis include annual yellow sweetclover *(Melilotus indicus*), blue-eyed grass, black mustard (*Brassica nigra*), Menzies' goldenbush, deerweed, and iceplant. Diegan coastal sage scrub–Baccharis dominated occupies 1.48 acres on site and 0.04 acres off site (Appendix C).

Non-Native Grassland-Broadleaf Dominated

Non-native grassland consists of dense to sparse cover of non-native invasive broadleaf species (Oberbauer et al. 2008). This designation is used when non-native invasive broadleaf species make up more than 50% cover of the vegetation community. In San Diego County, the presence of black mustard and shortpod mustard (*Hirschfeldia incana*) are common indicators of this community. In some areas, depending on past disturbance and annual rainfall, some mustards are more abundant than others (Oberbauer et al. 2008).

Non-native grassland-broadleaf dominated is disturbed on site and consists mostly of black mustard. Less commonly occurring species include stinkwort (*Dittrichia graveolens*) with red brome (*Bromus rubens*) and stork's bill (*Erodium* spp.). A few of these areas occur on top of the mima mound formations but seem to have been graded or disturbed so heavily they can be considered non-native broadleaf communities. Non-native grassland—broadleaf dominated habitat occupies 0.07 acres on site (Appendix C).

Disturbed Habitat

Disturbed habitat are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain a soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes, graded firebreaks, graded construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

Ornamental vegetation occurs right next to the sidewalk and covers the land up to the salt cedar community. It also invades some of the understory of the eucalyptus woodland. On site, this community consists almost entirely of ornamental vegetation or iceplant, with small sections of non-native annual stinkwort. Disturbed habitat within off-site areas is primarily void of vegetation. Disturbed habitat occupies 0.61 acres on site and 0.22 acres off site (Appendix C).

Eucalyptus Woodland

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous shrubby understory. Eucalyptus species can form a dense stand with a closed canopy or an open stand that may be installed as a windbreak or ornamental plantings. Eucalyptus species produce a large amount of leaf and bark litter. Overstory composition is typically limited to one species of the genus, or mixed stands composed of several eucalyptus species; few native overstory species are present within eucalyptus-planted areas. Some characteristic species of this community include blue gum (*Eucalyptus globulus*) and red gum (*E. camaldulensis)* (Oberbauer et al. 2008).

Eucalyptus woodland is composed of red gum and red iron bark (*E. sideroxylon*) on site and would be considered a dense closed-canopy stand. This eucalyptus woodland community can be easily observed on aerial photography within the site. Eucalyptus woodland occupies 0.25 acres on site (Appendix C).

3.3.1.3 Floral Diversity

A total of 131 species of vascular plants, consisting of 81 native species (62%) and 50 non-native species (38%), were recorded during the initial survey and vegetation mapping effort. A list of all plant species observed during 2019/2020 and 2023 surveys is provided in Appendix A, Plant Compendium, of the Biological Resources Technical Report (Appendix C).

3.3.1.4 Animals

A total of 29 wildlife species were observed in the survey area, 28 of which are native species. A cumulative list of wildlife species observed within the project site is presented in Appendix B, Wildlife Compendium, of Appendix C. Special-status wildlife incidentally observed include: Cooper's hawk (*Accipiter cooperii*) (California Department of Fish and Wildlife [CDFW] Watch List) and white-tailed kite (*Elanus leucurus*) (CDFW fully protected species). During the field reconnaissance study, Dudek biologists observed and heard the federally endangered least Bell's vireo throughout the assessment moving into the vernal pool areas from willow riparian along the southeastern portion of the study area (Figure 3.3-2, Special-Status Plants and Wildlife). No aquatic or amphibious species were observed during all survey efforts.

3.3.1.5 Special-Status/Regulated Resources

Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land areas that support unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. The MHCP organizes vegetation into habitat group types: Wetland Communities, Rare Upland, Coastal Sage Scrub, Chaparral, Annual Grassland, and Other (AMEC Earth & Environmental et al. 2003). Varying mitigation ratios are required for each habitat group except "other."

Eleven sensitive vegetation communities/habitat types were mapped on the project site: arundo-dominated riparian, disturbed and emergent wetland, San Diego Mesa Claypan vernal pool, southern willow scrub, tamarisk scrub, Diegan coastal sage scrub (including baccharis-dominated), valley needlegrass grassland, wildflower field, and non-native grassland (broadleaf-dominated). Remaining areas on the project site include disturbed habitat and eucalyptus woodland, which are not considered sensitive.

Special-Status Plant Species

Endangered, rare, or threatened plant species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report and include

(1) endangered or threatened plant species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA) (CDFW 2018), and (2) plant species with a California Rare Plant Rank (CRPR) 1 through 3 (Appendix C). This report also includes CRPR 4 plant species.

A special-status plant survey was conducted for the project site on May 24 and August 30, 2021, to determine the presence or absence of special-status plant species. An updated survey focusing on the potential change in Brodiaea populations was conducted in June 2023. A list of potentially occurring plants was generated as part of the literature review (Appendix C). Appendix C provides a list of all special-status plant species with their habitat requirements and potential to occur in the project site. This table provides evaluations for each of the special-status species' occurrence in the vicinity of the project site and their potential to occur in the project area based on known geographic range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that have low potential or are not expected to occur on site are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur in the project site.

Based on a review of the potential species to occur within the region, the habitat conditions identified in the project boundary, and the results of focused botanical surveys conducted in the project area, at total of 24 special-status, rare, and/or sensitive plant species have a moderate or high potential to occur. Of those, the following special-status plant species were observed within the wildflower fields and vernal pool communities during the initial biological reconnaissance and subsequent focused rare plant surveys:

- San Diego button celery (*Eryngium aristulatum* var. *parishii*)—federally endangered, state endangered, CRPR 1B.1
- thread-leaved brodiaea (*Brodiaea filifolia*)—federally threatened, state endangered, CRPR 1B.1
- spreading navarretia (*Navarretia fossalis*)—federally threatened, CRPR 1B.1
- Orcutt's brodiaea (*Brodiaea orcuttii*)—CRPR 1B.1

The above-referenced special-status plant species and focused rare plant survey results for each are described in further detail below. The following plant species were detected, but are not considered special-status under CEQA:

- small-flowered morning glory (*Convolvulus simulans*)— CRPR 4.2
- graceful tarplant (*Holocarpha virgata* var. *elongata*)— CRPR 4.2

San Diego Button Celery

This federally and state endangered, CRPR 1B.1 dicot occurs in freshwater wetlands and vernal pool habitats as well as within coastal sage scrub, valley and foothill grassland, and riparian communities.

This wetland indicator species blooms from April to June between 65 and 2,035 feet above mean sea level. Hundreds of individuals were observed surrounding the San Diego mesa claypan vernal pools in the center of the project site (see Figure 3.3-2). Some of the vernal pools had San Diego button-celery populations that were expanding outside the vernal pool basins.

Thread-Leaved Brodiaea

Thread-leaved brodiaea is a federally threatened, state endangered, CRPR 1B.1 Southern California endemic monocot. This species prefers open ground such as floodplains, grasslands, and gentle hillsides, particularly near vernal pools. It only blooms in the spring of good rainfall years (March through June) between 100 and 2,500 feet above mean sea level, in clay or semi-sandy soils. Hundreds of individuals were observed on the central portion of the project site within the valley needlegrass grassland and wildflower field habitats (Figure 3.3-2).

With the greater than average rainfall of the 2022/2023 season in Southern California, most native bulb species showed better than average population extent and numbers, and this was also the case for the Brodiaea surveys conducted on the project in 2023. The extent of thread-leaf brodiaea were similar to the surveys in 2021, with approximately 500 individuals of thread-leaf brodiaea documented during the 2023 survey. In some areas there were overlapping occurrences of Orcutt's brodiaea and thread-leaf brodiaea. In these areas, there were a few potential hybrid individuals documented. Hybrids between Orcutt's brodiaea and thread-leaf brodiaea are known to occur infrequently, especially in the San Marcos valley area. Where Orcutt's brodiaea has no staminodes (a remnant sterile stamen) in the flowers and thread-leaf brodiaea has thin pointed staminodes in the flowers, these hybrids often exhibit a thin pointed staminode like structure that remains fused within the inside of the petal. Whenever these potential hybrids were found, it was assumed that these individuals were closest aligned with the thread leaf brodiaea populations and were mapped as such.

Spreading Navarretia

This federally threatened, CRPR 1B.1 annual herb is native to southern California. It occurs strictly in vernal pool and shallow freshwater habitats and blooms from April to June from 100 to 2,150 feet above mean sea level. Approximately 48 individuals were observed within the central portion of the project site in association with San-Diego button celery within the northern central portion of the study area.

Orcutt's Brodiaea

Orcutt's brodiaea is a CRPR 1B.1 Southern California native perennial herb that blooms from May to July and occurs from 98 to 5,550 feet above mean sea level. Its preferred habitat consists of vernally moist grasslands and the periphery of vernal pools. In 2021, hundreds of individuals were observed predominantly in the central portion of the project site, within the wildflower fields and valley needlegrass grassland communities. Additionally, individuals were observed scattered along the vernal pool habitats

and wildflower fields along the northeastern and southeastern portions of the project site. During the 2023 focused survey. Approximately 1,000 individuals of Orcutt's brodiaea were observed, sometimes overlapping with populations of thread-leaf brodiaea as previously described.

Special-Status Wildlife Species

Species defined as "special-status wildlife species" in this report include endangered and threatened wildlife species recognized in the context of the California and federal Endangered Species Acts (Appendix C); Species of Special Concern assigned by CDFW to species whose population levels are declining, have limited ranges, and/or are vulnerable to extinction due to continuing threats; Fully Protected species protected by the CDFW and Watch List species candidates for higher sensitivity statuses; and Birds of Conservation Concern provided by USFWS to migratory and non-migratory bird species that adhere to the 1988 amendment to the Fish and Wildlife Conservation Act that mandates USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Federal Endangered Species Act of 1973" (Appendix C).

Appendix D, Wildlife Species with a Moderate to High Potential to Occur, of Appendix C lists the special-status wildlife species known to occur within the U.S. Geological Survey (USGS) San Marcos 7.5-Minute quadrangle map and the eight-quadrangle maps surrounding the project site, including the Morro Hill, Bonsall, Pala, San Luis Rey, Valley Center, Encinitas, Rancho Santa Fe, and Escondido (CDFW 2021; USFWS 2021a). Due to the presence of multiple sensitive vegetation communities and wetland habitats on predominantly undeveloped land, the project site has moderate value as habitat for these endangered, rare or threatened wildlife species. Based on a review of the potential species to occur within the region and the habitat conditions identified with the project site, seven special-status wildlife species have a moderate to high potential to occur.

The federally and state endangered least Bell's vireo (*Vireo bellii pusillus*) was observed during the field reconnaissance study moving into the vernal pool areas from the willow riparian habitat. Least Bell's vireo was heard and observed numerous times. Special-status avian species that were also incidentally observed within the project area include the Cooper's hawk (CDFW Watch List) and white-tailed kite (CDFW Fully Protected). The undeveloped sensitive upland and wetland habitats within the project area have the potential to support nesting and foraging opportunities for other rare and special-status avian species not incidentally observed during the initial survey due to seasonal limitations. Focused surveys for coastal California gnatcatcher were negative (Appendix E of Appendix C). However, due to the presence of suitable habitat for coastal California gnatcatcher on the project site, pre-construction focused surveys are recommended, as noted in Section 3.3.7, Mitigation Measures.

Additionally, San Diego fairy shrimp (*Branchinecta sandiegonensis*) is a federally endangered invertebrate species with a high potential to occur within the San Diego Mesa Claypan vernal pools on

the eastern portion of the project area. It should also be noted that the project area overlaps with USFWS designated critical habitat for the San Diego fairy shrimp. Therefore, there is a high potential for this species to occur within the project site.

3.3.1.6 Jurisdictional Aquatic Resources

The jurisdictional delineation was conducted by Dudek biologist Cody Schaaf on September 8, 2021, focusing on potential features within the on-site development footprint. Results of wetland delineation indicate that the project site supports 0.20 acres of jurisdictional aquatic resources including 0.05 acres of non-wetland waters regulated by USACE and the Regional Water Quality Control Board (RWQCB), as well as 0.09 acres of streambed and 0.11 acres of associated riparian habitat regulated by CDFW (Table 3.3-3). Wetland Determination Forms were taken at sample points within the mapped freshwater emergent wetland in the center of the impact footprint, as well as along the drainage channel, in patches of tamarisk and other hydrophytic vegetation at various locations throughout the review area. None of the points were determined to meet all three parameters. Accordingly, no USACE wetlands are present in the review area. Because CDFW regulates from bank to bank, certain portions within the project footprint where the top of a channel bank extended beyond the ordinary high-water mark (OHWM) are subject to regulation by CDFW as streambed.

Table 3.3-3
Jurisdictional Aquatic Resource Summary

Regulating Agency	Jurisdictional Resource	Acres
USACE/RWQCB	Non-wetland waters	0.05
	Total USACE/RWQCB	**0.05**
CDFW	Streambed	0.09
	Riparian habitat – Disturbed wetland	0.11
	Total CDFW	**0.20**

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

The emergent wetland mapped within the project site is located upslope of the channel and associated disturbed wetland and as such, this area does not receive flows from the channel and is therefore not regulated by CDFW as associated riparian habitat. The project also supports 0.12 acres that is dominated by giant reed and 0.58 acres that is dominated by tamarisk, both of which are considered highly invasive species. They outcompete native plant species that provide vital habitat for wildlife. As such, although these species are rated as wetland plants, they are not designated as CDFW riparian habitat per a pre-application meeting with CDFW. These two species are often the target of restoration projects that include their removal to mitigate for impacts to native wetland vegetation.

3.3.1.7 Wildlife Corridors/Core Wildlife Areas

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

Important corridors and linkages have been identified on a local and regional scale throughout the Draft North County MHCP (AMEC Earth & Environmental et al. 2003) and adopted City of San Marcos General Plan (City of San Marcos 2012). The planning objectives of most corridors and linkages in western San Diego County include establishing a connection between the northern and southern regional populations of the coastal California gnatcatcher, in addition to facilitating movement and connectivity of habitat for large mammals and riparian bird species.

The project site is not identified as a wildlife corridor in the City of San Marcos General Plan (City of San Marcos 2012). The project site is not identified as a preserve, nor are there preserve lands located within 2,000 feet of project site. The project site is not contiguous with any undeveloped land. Given the barrier posed by surrounding development, the site is not expected to serve as a regional wildlife corridor or substantial habitat linkage that would be used by large mammals, riparian birds, or migratory birds.

Thus, given the project site location immediately adjacent to and surrounded by existing roadways and development within an urban setting, the project site is not considered to serve as a wildlife corridor or habitat linkage, either locally or regionally.

3.3.2 Methodology

3.3.2.1 Literature Review

To assess biological resources and potential constraints, Dudek reviewed available relevant literature and data on sensitive habitats and species distribution to determine those resources that have the potential for occurrence within the San Marcos USGS 7.5-Minute Quadrangle Map and the 8-Quadrangle Maps surrounding the project site. Prior environmental documents prepared for the

project provided information on biological resources and constraints previously identified. The review included the following:

- CDFW California Natural Diversity Database (CDFW 2021) including the Morro Hill, Bonsall, Pala, San Luis Rey, Valley Center, Encinitas, Rancho Santa Fe, and Escondido USGS Quadrangle Maps.
- California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2021) for the San Marcos and surrounding 7.5-minute USGS quadrangles.
- USFWS Information for Planning and Consultation (IPaC) (USFWS 2021a) including USGS 7.5-minute San Marcos and surrounding 7.5-minute USGS quadrangles.
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2020a) was used to identify soil types occurring within the project site.
- Google Earth (2021).
- USFWS National Wetlands Inventory (USFWS 2021b).
- USGS National Hydrography Dataset (USGS 2021a, 2021b).
- San Diego County Bird Atlas (Unitt 2004).
- San Diego Natural History Museum's Plant Atlas (SDNHM 2021).
- Vegetation and Sensitive Resources/Impacts for the San Marcos Superior Ready Mix Parcel [map] (Helix Environmental Planning 2005).

3.3.2.2 Field Surveys

Field Reconnaissance

An initial due diligence survey was conducted by Dudek biologist Erin Bergman to identify the existing conditions and determine the potential biological constraints to the project. On April 15, 2021, and April 27, 2021, Dudek biologist Erin Bergman conducted vegetation mapping and a general biological reconnaissance of the project site. In addition, focused rare plant surveys were conducted in the spring and summer of 2021 by Dudek biologist Erin Bergman to determine the presence/absence of various special-status species. Watershed mapping for the vernal pools was conducted by habitat restoration specialist Scott McMillian. Cody Schaff conducted a jurisdictional delineation on September 8, 2021. Focused surveys for coastal California gnatcatcher (*Polioptila californica californica*) were conducted in May 2023 by USFWS permitted biologist Erin Bergman (TE53771B-0). Updated focused surveys to document the change in presence and extent of any Brodiaea species observed in 2021 was conducted in June 2023. Table 3.3-4, Schedule of Surveys, lists the dates, conditions, and focus for each survey. All focused surveys have been conducted to date, and the results are provided in this report.

Table 3.3-4
Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
4/15/2021	0800-1700	Biological Reconnaissance #1	EB	57°F–77°F; 0%–100% cloud cover; 2–5 mph winds
4/27/2021	0800-1700	Biological Reconnaissance #2	EB	57°F–77°F; 0%–100% cloud cover; 2–5 mph winds
5/24/2021	0830-1630	Special-Status Plant Survey #1	EB	64°F–78°F; 0%–40% cloud cover; 0-4 mph winds
6/5/2021	Not recorded	Vernal Pool Watershed Mapping	SM	Not recorded
8/30/2021	0900-1300	Special-Status Plant Survey #2	EB	65°F–82°F; 20%–80% cloud cover; 0-3 mph winds
9/8/2021	0920-1500	Jurisdictional Delineation	CS	73°F–82°F; 0%–0% cloud cover; 0–4 mph winds
5/10/2023	0626–1201	CAGN Protocol Survey No. 1	EB	63°F–67°F; 100% cloud cover; 0–3 mph wind
5/17/2023	0754 - 1215	CAGN Protocol Survey No. 2	EB	58°F–65°F; 40%–50% cloud cover; 0-4 mph wind
5/24/2023	0730 –1200	CAGN Protocol Survey No. 3	EB	59°F–69°F; 50%–100% cloud cover; 0–5 mph wind
6/8/2023	Not recorded	Focused Brodiaea Survey	SM	Not recorded

Notes:
mph = miles per hour
Personnel: EB = Erin Bergman, SM = Scott McMillian, CS= Cody Schaaf

All plant species encountered during the surveys were recorded. Latin and common names for plant species with a CRPR follow the California Native Plant Society's On-Line Inventory of Rare, Threatened, and Endangered Plants of California (Appendix C). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020) and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2020b).

All wildlife species observed or detected during the surveys were recorded. Binoculars (10 × 50 magnification) were used to aid in the identification of wildlife. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithological Society (AOS 2020) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA 2016) or San Diego Natural History Museum (SDNHM 2002) for butterflies. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area.

Vegetation Community and Land Cover Mapping

Dudek conducted vegetation mapping to characterize natural vegetation communities, including habitats for special-status species, within the project site. The vegetation community and land cover mapping follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), which is based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Vegetation mapping was conducted within the project site on April 15, 2021, and April 27, 2021 in conjunction with the initial reconnaissance-level surveys for sensitive resources.

Vegetation communities and land covers within the survey area were mapped in the field with Collector, digitized using ArcGIS, and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the survey area was determined.

Botanical Surveys

Dudek botanist Erin Bergman conducted a spring focused special-status plant survey on May 24, 2021, and a summer focused special-status plant survey on August 30, 2021. The survey date, biologist, and weather conditions are provided in Table 3.3-4. Field survey methods and mapping of rare plants conformed to California Native Plant Society's Botanical Survey Guidelines (CNPS 2001), Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The surveys consisted of one survey pass in May and one survey pass in August that provided 100% coverage of the project site.

Before conducting the late season focused rare plant survey, on August 16, 2021, Dudek botanist Erin Bergman conducted botanical reference population checks on the project site to ensure the focal special-status plant species were in bloom and identifiable. Reference checks were conducted for graceful tarplant (*Holocarpha virgata* ssp. *elongata*), as it blooms from May through November. Populations of this species were observed throughout the project Site during the botanical reference check. Botanical reference checks for thread-leaved brodiaea (*Brodiaea filifolia*), small-flowered morning glory (*Convolvulus simulans*), Orcutt's brodiaea (*Brodiaea orcuttii*), San Diego button-celery (*Eryngium aristulatum* var*. parishii*) and spreading navarretia (*Navarretia fossalis*) were not conducted, as they bloom during the spring and were mostly observed during the initial biological reconnaissance. A list of all plant species observed on the project site during surveys is presented in Appendix A, Plant Compendium, of Appendix C.

Dudek botanist and habitat restoration ecologist Scott McMillan conducted an updated plant survey of the project survey area on June 8, 2023. A meandering walking survey was conducted across the entire site to document any changes in the presence and extent of Brodiaea species populations documented in 2021.

Wildlife Surveys

Least Bell's vireo was detected during surveys moving into the vernal pool areas from willow riparian, and least Bell's vireo were heard and observed numerous times indicating the likely presence of more than one pair. Therefore, it is assumed that this species uses riparian habitat within and adjacent to the project site. Focused surveys for coastal California gnatcatcher were conducted by a USFWS permitted biologist (Erin Bergman; TE53771B-0). All suitable habitat within the project site was covered on foot during each survey visit for 100% visual and audible coverage. Survey visits were conducted at minimum 1-week intervals (i.e., 7-day intervals) and were performed in conformance with the currently accepted protocol of the USFWS Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol (USFWS 1997).

A tape of recorded gnatcatcher vocalizations was played every approximately 25 feet to induce responses from potentially present gnatcatchers. Tape-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment. A 200-scale (1 inch = 200 feet) aerial photograph of the project site and a vegetation map were used to identify suitable habitats and map any gnatcatchers detected. Binoculars were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

San Diego fairy shrimp (*Branchinecta sandiegonensis*), a federally endangered species, is known to occur within the immediate vicinity of the project and has a high potential to occur within the on-site vernal pools. Since the project will not result in impacts to the vernal pools, focused surveys to document presence/absence of this species are not necessary at this time. A list of all wildlife species observed on the project site during surveys is presented in Appendix B, Wildlife Compendium, of Appendix C.

Aquatic Resource Delineation

A jurisdictional aquatic resource delineation was conducted within the potential development area only to determine the extent of resources that may be under the jurisdiction of USACE pursuant to Section 404 of the federal Clean Water Act (CWA), RWQCB pursuant to CWA Section 401 and the Porter–Cologne Act, and the CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code (CFGC).

The delineation was conducted in accordance with the methods prescribed in the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a), and the Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b). During the jurisdictional delineation, the site was walked and evaluated for evidence of an OHWM, surface water, saturation, wetland

vegetation, and nexus to a traditional navigable water of the United States. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations.

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, adopted April 2, 2019 (Appendix C). As described in these procedures, wetland waters of the state will be mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters were mapped at the OHWM based on the procedures used to delineate USACE non-wetland waters (USACE 2008b).

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under CFGC Section 1602. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, CDFW, and the County of San Diego are collectively referred to as "jurisdictional aquatic resources" herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows: USACE and RWQCB Wetlands" and "non-wetland waters" and CDFW "riparian areas" and "streambeds."

3.3.2.3 Survey Limitations

The reconnaissance survey, jurisdictional delineation, focused rare plant surveys, protocol coastal California gnatcatcher surveys and vegetation mapping were done during the daylight hours under weather conditions that allowed for quality biological observations (e.g., surveys were not conducted during rain). Because surveys were conducted during the day, the likelihood of detecting nocturnal and crepuscular species, such as many mammal species, was relatively low. In addition, any fall migratory birds that may use habitats in the project site and pass through the region would not have been observed due to the period surveys were conducted. The surveys were favorable for spring and summer blooming flora because surveys were conducted in late spring, and therefore many flowering plant species were in bloom. However, the Southern California region is experiencing a drought and surveys were delayed allowing additional blooming period for species that were blooming later in the season than normal. Additional surveys after a strong rainy season were conducted in 2023 to account for this limitation.

3.3.3 Regulatory Setting

Federal

Federal Endangered Species Act

Administered by the USFWS, the federal Endangered Species Act (FESA) of 1973 provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Under FESA, "take" of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. FESA Section 9(a) defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns. Under FESA, USFWS may issue incidental take statements, which authorize the take of listed wildlife species provided such take does not jeopardize the continued existence of the species.

FESA Sections 7 and 4(d) regulate actions that could jeopardize endangered or threatened species. Section 7, administered by the USFWS, describes a process of Federal interagency consultation for use when Federal actions may adversely affect listed species. A Section 7 Consultation (formal or informal) with USFWS is required when there is a nexus between a listed species' use of a site and a project is requesting a federal action, including funding. If the action may affect listed species, a biological assessment is required for any major construction activity. The USFWS determines, through the biological assessment or other review, whether the action is likely to adversely affect a listed species and thereby require formal consultation. At the conclusion of formal consultation, the USFWS will prepare a Biological Opinion. The Biological Opinion will state whether the Federal agency has insured that its action is not likely to jeopardize the continued existence of a listed species and/or result in the destruction or adverse modification of critical habitat. If avoidance cannot be achieved, incidental take can be authorized via the Biological Opinion, issued by USFWS, for non-marine related listed species issues. A Section 7 Consultation could be required if impacts to a federally listed species would occur and there is requested federal action.

If a project could directly or indirectly impact federally listed species and/or their critical habitat, and there is no federal action/nexus (e.g., permit, funding, ownership), FESA requires the project proponent to consult with the USFWS under Section 10. A consultation under FESA Section 10 requires submittal of an Incidental Take Permit application and a Habitat Conservation Plan to USFWS for evaluation of project impacts. If the USFWS determines the project would have a "low effect" on listed, proposed, or candidate species and their habitats, and the project would have minor effects on other environmental resources, the USFWS would complete the consultation process and issue an Incidental Take Permit. If a project is determined by USFWS to have a "moderate or high effect" on listed, proposed, or candidate species and their habitats, the USFWS would require preparation of National Environmental

Policy Act (NEPA) analysis prior to issuance of an Incidental Take Permit. The NEPA analysis would include additional evaluation of the project impacts in the form of an Environmental Assessment or an Environmental Impact Statement. A Section 10 Consultation could be required if impacts to a federally listed species would occur.

Identified by the USFWS, critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat, so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat.

Clean Water Act

The CWA is intended to restore and maintain the quality and biological integrity of the nation's waters. Section 402 of the CWA prohibits the discharge of pollutants to "waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System Permit. The CWA, Section 402, requires a National Pollutant Discharge Elimination System Permit for the discharge of stormwater from municipal separate storm sewer systems serving urban areas with a population greater than 100,000, construction sites that disturb 1 acre or more, and industrial facilities. The RWQCB administers these permits with oversight provided by the State Water Resources Control Board and U.S. Environmental Protection Agency Region IX.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." CWA Section 502 further defines "navigable waters" as "waters of the United States, including territorial seas." Waters of the United States are broadly defined in the Code of Federal Regulations (CFR), Title 33, Section 328.3, Subdivision (a), to include navigable waters; perennial and intermittent streams, lakes, rivers, and ponds; and wetlands, marshes, and wet meadows.

The limits of the USACE's CWA Section 404 jurisdiction in non-tidal waters are defined by the OHWM, unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris (33 CFR 328.3). As a result, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within or adjacent to waters of the United States, the lateral limits of the USACE's jurisdiction extends beyond the OHWM to the outer edge of the wetland.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters provide the federal agency with a water quality certification declaring that the

discharge would comply with water quality standard requirements of the CWA. USACE is prohibited from issuing a CWA permit until the applicant receives a CWA, Section 401, water quality certification or waiver from the RWQCB.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species of birds and prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The executive order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Two species of eagles that are native to the United States, bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent the species from becoming extinct.

State

California Environmental Quality Act

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

California Endangered Species Act

CDFW administers the CESA (CFGC Section 2050 et seq.), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under the CESA, Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053, stipulates that state agencies may not approve projects that would "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (CFGC Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

California Fish and Game Code

The California Fish and Game Code (CFGC) provides specific protection and listing for several types of biological resources. CFGC Section 1600 requires a Streambed Alteration Agreement for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require a Streambed Alteration Agreement include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

If the project could result in adverse impacts to a state-listed species that is not also federally listed, CFGC Section 2081(b) provides a mechanism for CDFW to permit, on a project-specific basis, incidental take of species listed under CESA. Preparation and submittal of an Incidental Take Permit application with CDFW by the project proponent is required. The application must include project details, potential project impacts, an analysis of "jeopardy" for the continued existence of the impacted species, and species-specific mitigation and avoidance measures that would fully mitigate for the project impacts.

Pursuant to CFGC Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFGC Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. CFGC Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Porter-Cologne Water Quality Control Act

This statute regulates surface waters and wetlands within the State and is governed by the RWQCB. Features that support aquatic resources (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology), but are isolated (i.e., lack downstream connectivity to waters of the United States) could

be subject to regulation pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne). Impacts to isolated wetlands and/or waters of the state require a Waste Discharge Requirement Permit from the RWQCB.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The California NCCP Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. An NCCP, initiated by the State of California, focuses on conserving coastal sage scrub, and in concert with the USFWS and the FESA, is intended to avoid the need for future federal and state listing of coastal sage scrub-dependent species. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other interested parties to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP with the federal Habitat Conservation Plan process to provide take permits for state and federally listed species. Under the NCCP, local governments, such as the County of San Diego, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits.

Multiple Habitat Conservation Program

The Multiple Habitat Conservation Program (MHCP) spans northwestern San Diego County and has goals of providing protection for over 80 special-status species and approximately 19,000 acres of proposed conservation land (AMEC Earth & Environmental et al. 2003). The City of San Marcos and six additional city jurisdictions (Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, and Vista) make up the MHCP Plan area. It is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve. The MHCP is one of several large

multiple jurisdictional habitat planning efforts in San Diego County, each of which constitutes a subregional plan under the NCCP Act of 1991. The MHCP includes incorporated cities in northwestern San Diego County that will implement their respective portions of the MHCP through citywide "subarea" plans, which describe the specific implementing mechanisms each city will institute for the MHCP.

The City of San Marcos Subarea Plan has not been finalized or implemented, and the City is no longer an active participant in the NCCP program and the subregional MHCP conservation planning effort. However, it is the City's policy to comply with the conservation policies identified in the Draft San Marcos Subarea Plan, including an assessment of designated Biological Core Linkage Areas or MHCP Focused Planning Areas in the context of the project. In addition, the project will be evaluated to ensure consistency with CEQA.

The City of San Marcos Municipal Code was reviewed and contains additional environmental standards for the City environmental review process in Title 18, which defines how the City will define environmental protection and the steps thereafter. The site is designed as Light Industrial in the General Plan (City of San Marcos 2012).

Local

City of San Marcos General Plan

The Conservation and Open Space Element of the City's General Plan contains several policies pertaining to the protection of biological resources (City of San Marcos 2012). The following goals and policies apply to the project:

- **Goal COS-1:** Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence.
    - **Policy COS-1.1:** Support the protection of biological resources through the establishment, restoration, and conservation of high-quality habitat areas.
    - **Policy COS-1.2:** Ensure that new development, including Capital Improvement Projects, maintain the biotic habitat value of riparian areas, oak woodlands, habitat linkages, and other sensitive biological habitats.
    - **Policy COS-1.3:** Continue to work with other federal, State, regional, and local agencies to implement SANDAG's MHCP.
- **Goal COS-2:** The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.

  - **Policy COS-2.1:** Provide and protect open space areas throughout the City for its recreational, agricultural, safety, and environmental value.
  - **Policy COS-2.2:** Limit, to the extent feasible, the conversion of open space to urban uses and place a high priority on acquiring and preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, water and agricultural resources protection, and overall community benefit.
  - **Policy COS-2.6:** Preserve healthy mature trees where feasible; where removal is necessary, trees shall be replaced at a ratio of 1:1.

- **Goal COS-3:** Protect natural topography to preserve and enhance the natural beauty of San Marcos.
  - **Policy COS-3.3:** Continue to work with new development and redevelopment project applicants in designing land use plans that respect the topography, landforms, view corridors, wildlife corridors, and open space that exists.
  - **Policy COS-3.4:** Evaluate potential impacts to visual and aesthetics resources, including the potential to create new light sources, while still maintaining and being sensitive to rural lighting standards.
- **Goal COS-8:** Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect.
  - **Policy COS-8.4:** Require new development and redevelopment to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, Best Management Practices (BMPs), low impact development hydromodification strategies consistent with the current San Diego Regional Water Quality Control Board Municipal Stormwater National Pollutant Discharge Elimination System Permit, and all future municipal stormwater permits.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As shown in Section 3.10.4, the project is consistent with the applicable goals and policies related to biological resources.

3.3.4 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

- **Threshold #1:** 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.

- **Threshold #2:** 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.
- **Threshold #3:** 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.
- **Threshold #4:** 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.
- **Threshold #5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- **Threshold #6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.3.5 Project Impact Analysis

This section defines the types of impacts that would occur due to project implementation, including direct, permanent impacts; direct, temporary impacts; and indirect impacts.

Direct Impacts

Direct, permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and construction of a project. Direct, permanent impacts are analyzed in four ways: (1) permanent loss of vegetation communities and land covers and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and/or (4) permanent loss of wildlife movement and habitat connectivity.

Direct, temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing and grading associated with implementation of a project. The main criterion for direct, temporary impacts is that impacts occur for a short period of time and are reversible.

Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on remaining or adjacent biological resources outside of the direct disturbance zone that may occur

during grading activities (i.e., short-term construction-related indirect impacts) or later in time as a result of a project (i.e., long-term, or operational, indirect impacts). Short-term indirect impacts can include dust, human activity, pollutants, erosion, and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations related or occur over the long term. In most cases, indirect effects are not quantified, but in some cases, quantification might be included, such as using a noise contour to quantify indirect impacts to nesting birds.

For each of the following impact sections, direct and indirect impacts for biological resources are identified and a significance determination is made for each impact. For each significant impact, mitigation measures that would reduce the impact to less than significant are proposed.

Threshold #1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special status plant and animal species on the project site could be impacted as a result of project implementation (Impact BIO-1). These species are discussed further below.

Special-Status Plants

Focused rare plant species surveys were conducted during spring and summer blooming periods in 2021 to determine the full extent of flora within the project area. An updated survey focusing on the potential change in Brodiaea populations was conducted in June 2023. Four special-status plant species were identified within the central and eastern portions of the project site within the wildflower fields, valley needlegrass grassland, and vernal pool habitats. All special-status plant populations as well as all vernal pools and associated watersheds will be avoided. Therefore, there are no direct impacts to special-status plant species.

Indirect impacts to special-status plant species would be limited to short-term construction impacts related to erosion, runoff, and dust. However, all project ground-disturbing activities would be subject to the typical restrictions (e.g., best management practices [BMPs]) and requirements that address erosion and runoff, including those of the National Pollutant Discharge Elimination System permit program and preparation of a Stormwater Pollution Prevention Plan, including consistency with the Construction General Permit Order 2009-009-DWQ. With implementation of these BMPs and permit conditions, potential indirect impacts to special-status plant species would be less than significant. In addition, implementation of Mitigation Measures (MM-)BIO-3 would ensure that any landscaping on site would prevent the introduction and spread of invasive plant species on the project site during construction and operations. Implementation of MM-BIO-5 would ensure that all construction personnel are aware of the sensitive plant species and their habitat.

Special-Status Wildlife Species

The undeveloped sensitive upland and wetland habitats within the project site have the potential to support least Bell's vireo. This species was observed foraging on site and in off-site habitat. Although suitable coastal sage scrub habitat capable of supporting the coastal California gnatcatcher occurs throughout the project site, this species was not observed during multiple site visits conducted by a USFWS permitted coastal California gnatcatcher biologist for focused rare plant surveys and the initial biological reconnaissance. The project would result in the direct loss of 1.10 acres of wetland habitat that could be used by least Bell's vireo as well as 0.89 acres of habitat that could be used by coastal California gnatcatcher. Direct impacts to these species would be mitigated through the implementation of MM-BIO-1 and MM-BIO-2 which provides for the preservation of 8.07 acres of high value habitat.

To further reduce potential direct impacts on coastal California gnatcatcher and least Bell's vireo during initial clearing/grubbing the project will implement MM-BIO-4 to MM-BIO-13, which includes temporary construction fencing. Environmental awareness training, breeding season avoidance, best management practices for construction and nesting bird surveys and avoidance measures.

Indirect effects to special-status wildlife species during project construction may include the generation of fugitive dust, changes in hydrology resulting from construction, including sedimentation and erosion, the release of chemical pollutants, and increased human presence. As noted above under indirect effects to vegetation, the potential indirect impacts from construction dust, erosion/sedimentation, and the release of chemical pollutants would be avoided and minimized through the implementation of industry standard construction-related BMPs, including consistency with the Construction General Permit Order 2009-009-DWQ, which would reduce these potential effects on special-status wildlife species to a level that is less than significant. Although increased human presence during construction may result in avoidance and/or behavioral modification by wildlife in the area, this effect would be short-term and is considered less than significant.

Noise generated during construction has the potential to indirectly impact adjacent special-status wildlife species by disrupting their normal activities, particularly breeding and nesting activities associated with special-status bird species. Special-status bird species, including federal- and state-listed species and species protected under protected under the MBTA and CFGC Sections 3503–3513 and Sections 3800–3801, may occur in habitats adjacent to the project area. Nesting birds can be affected by short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. Breeding passerine and raptor species likely use the various habitats on site for nest construction and foraging. Indirect impacts from construction-related noise may occur to breeding birds if construction occurs during the breeding season (i.e., February 15 through August 31). Potential impacts, including noise, lighting, increased human presence and vehicle traffic within the site could affect nesting birds. Pre-construction nesting bird surveys during

the breeding season to avoid impacts to nesting birds in accordance with the MBTA and CFGC are a condition of project approval.

The proposed development of the site has the potential to result in significant impacts to special status plant and animal species (Impact BIO-1). However, implementation of mitigation measures MM-BIO-3 through MM-BIO-13 would ensure that potential impacts to special status species and their habitat are minimized and/or are reduced to below significant. Mitigation measures are outlined in detail in Section 3.3.7. With the implementation of proposed mitigation measures, impacts to special status plant and wildlife species would be **less than significant with mitigation incorporated.**

Threshold #2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project would result in a potentially significant impact to sensitive natural communities (Impact BIO-2). The project would result in direct impacts to sensitive vegetation communities on-site. Sensitive natural communities on the project site that could be impacted are summarized below in Table 3.3-5.

Table 3.3-5
Direct Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres)			Mitigation Ratio	Required Mitigation (acres)	On-Site Preservation (acres)
		On-Site	*Off-Site*	*Total*			
Group A – Wetland Communities							
Arundo-Dominated Riparian	0.11	0.11	0.01	0.12	N/A	0	0
Disturbed Wetland	0.11	0.11	0	0.11	3:1	0.33	0
Emergent Wetland	0.59	0.29	0	0.29	3:1	0.86	0.30
San Diego Mesa Claypan Vernal Pool	0.43	0	0	0	3:1	0	0.43
Southern Willow Scrub	0.03	0.03	0	0.03	3:1	0.09	0
Tamarisk Scrub	0.58	0.56	0	0.56	N/A	0	0.02
Subtotal Group A – Wetlands Communities	*1.84*	*1.09*	*0.01*	*1.10*	—	*1.28*	*0.76*
Group B – Rare Uplands							
Valley Needlegrass Grassland	3.63	0	0	0	2:1	0	3.63
Wildflower Field	1.90	0	0	0	2:1	0	1.90

Table 3.3-5
Direct Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres)			Mitigation Ratio	Required Mitigation (acres)	On-Site Preservation (acres)
		On-Site	*Off-Site*	*Total*			
Subtotal Group B. Rare Uplands	*5.53*	*0*	*0*	*0*	—	*0*	*5.53*
Group C – Coastal Sage Scrub							
Diegan Coastal Sage Scrub	1.08	0.21	0.01	0.22	1:1	0.22	0.93
Diegan Coastal Sage Scrub—Baccharis-Dominated	1.48	0.63	0.04	0.67	1:1	0.66	0.89
Subtotal Group C – Coastal Sage Scrub	*2.56*	*0.84*	*0.05*	*0.89*	—	*0.88*	*1.82*
Group D – Annual Grasslands							
Non-Native Grassland—Broadleaf-Dominated	0.07	0	0	0	0.5:1	0	0.07
Subtotal Group D – Annual Grasslands	0.07	*0*	*0*	*0*	—	*0*	*0.07*
Group F – Other Lands							
Disturbed Habitat	0.61	0.61	0.22	0.83	N/A	0	0
Eucalyptus Woodland	0.25	0.25	0	0.25	N/A	0	0
Subtotal Group F – Other Lands	*0.86*	*0.86*	**0.22**	**1.08**	**—**	*0*	*0*
Total*	**10.86**	**2.79**	**0.28**	**3.07**	**—**	**2.16**	**8.07**

Note:
* Numbers may not sum due to rounding
Source: Appendix C

Of the approximately 10.86 acres within the project, site, approximately 2.79 acres will be permanently impacted. Specifically, the western portion of the parcel will be impacted by proposed development, resulting in permanent impacts to 1.09 acres of wetland communities, 0.84 acres of coastal sage scrub and 1.08 acres of "other lands." Off-site improvements along the frontage road would result in 0.28 acres of impact, of which 0.01 is arundo and 0.05 consists of coastal sage scrub. Total impacts to wetland communities include 0.12 acres of Arundo-dominated riparian and 0.56 acres of tamarisk scrub. Although these species are categorized as wetland plant species they are highly invasive and are often the target of restoration projects that include their removal to mitigate for impacts to native wetland vegetation, as these species outcompete native habitats that provide vital habitat for wildlife. Therefore, mitigation is not proposed for impacts to these two vegetation communities. Permanent

impacts to non-native vegetation communities/land covers totaling 0.74 acres are not considered significant because these land covers are not considered sensitive; they are non-native and provide little biological resource value.

Direct permanent impacts to native wetland and coastal sage scrub communities would be considered significant absent mitigation. The project will result in the preservation of 7.32 acres of sensitive upland vegetation communities and 0.76 acres of wetland vegetation communities (including 0.02 acres of restored wetland vegetation) (MM-BIO-1). Implementation of MM-BIO-1 will provide for the required 1:1 mitigation for impacts to coastal sage scrub and the preservation of 0.76 acres of native wetlands and vernal pools will provide partial mitigation for impacts to wetland vegetation communities. To compensate for the loss of wetland vegetation communities the project will implement invasive species removal and restoration as well as vernal pool restoration (MM-BIO-2). Implementation of MM-BIO-1 and MM-BIO-2 would reduce potential direct, permanent impacts to less than significant.

Indirect impacts to vegetation during construction may include dust, which could disrupt plant vitality in the short term, construction-related soil erosion and runoff. Implementation of industry-standard construction and storm water BMPs including dust control, erosion control, and water quality protection would be required for the project to obtain a grading permit. Implementation of these dust, erosion control, and water quality protection measures during construction, including consistency with the Construction General Permit Order 2009-009-DWQ, would reduce any potential short-term indirect impacts on adjacent vegetation communities to a level that is less than significant.

Implementation of the project would result in significant impacts to sensitive natural communities (i.e., Arundo-Dominated Riparian, disturbed and emergent wetland, San Diego Mesa Claypan vernal pool, Southern Willow scrub, Tamarisk scrub, Diegan coastal sage scrub [including baccharis-dominated], Valley Needlegrass grassland, wildflower field, and non-native grassland [broadleaf-dominated]). Native habitat creation/restoration/preservation of impacted habitats would fully compensate for the loss of habitat and reduce impacts to below a level of significance. With the implementation of MM-BIO-1 and MM-BIO-2, impacts on sensitive natural communities would be less than significant with mitigation incorporated.

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

The project would result in impacts to aquatic resources which are potentially subject to USACE jurisdiction pursuant to CWA Section 404 (33 USC 1344), waters of the state potentially subject to the RQWCB jurisdiction pursuant to CWA Section 401 and the Porter-Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to regulation by the CDFW pursuant to CFGC Section 1600. Table 3.3-6 provides a summary of the proposed impacts.

Table 3.3-6
Impacts to Jurisdictional Aquatic Resources

Regulating Agency	Jurisdictional Resource	On-Site Acreage	Impacts (acres)
USACE/RWQCB	Non-wetland waters	0.05	0.05
	Total USACE/RWQCB	**0.05**	**0.05**
CDFW	Streambed	0.09	0.09
	Riparian habitat – Disturbed wetland	0.11	0.11
	Total CDFW*	**0.20**	**0.20**

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

Overall, the project would result in impacts to 0.09 acres of streambed and 0.11 acres of associated riparian habitat regulated by CDFW. Approximately 0.05 acres of non-wetland waters regulated by USACE and RWQCB would be permanently impacted. Mitigation for impacts to jurisdictional aquatic resources would occur through the on-site preservation of 0.76 acres of emergent wetland and vernal pools (MM-BIO-1) as well as on-site invasive species removal and vernal pool restoration (MM-BIO-2). In addition, all impacts to jurisdictional aquatic resources would require consultation with the regulatory agencies (MM-BIO-13).

Indirect impacts would be limited to short-term construction impacts related to construction runoff and dust. However, all project ground-disturbing activities would be subject to the typical restrictions (e.g., BMPs) and requirements that address erosion and runoff, including those of the National Pollutant Discharge Elimination System permit program and preparation of a Stormwater Pollution Prevention Plan, including consistency with the Construction General Permit Order 2009-009-DWQ. With implementation of these BMPs and permit conditions, potential indirect impacts to preserved jurisdictional aquatic resources in the project site would be less than significant.

In conclusion, implementing the project would result in significant impacts to protected jurisdictional resources under potential regulation by USACE, RWQCB, and or CDFW. The project would be required to secure the necessary regulatory permits prior to impacts per MM-BIO-13. It is anticipated that a 404 permit from the USACE, 401 Certification from the RWQCB, and a 1600 agreement from CDFW would be needed. If the wetlands or waters on-site are ruled non-jurisdictional by USACE, it is anticipated that a Waste Discharge Requirement Permit from RWQCB and a 1600 agreement from CDFW would be required, such that impacts would be reduced to **less than significant with mitigation incorporated**.

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

Development on the project site would not interfere with wildlife movement or nursery functions. The project site does not support fish habitat, is entirely bounded by existing development, is not contiguous with native habitats, and is outside of areas where wildlife movement opportunities do occur (along undeveloped open space habitat corridors). Areas may be used by smaller urban-adapted mammal species and bird species, but such areas are not considered refuge as a wildlife corridor or habitat linkage.

Based on the analysis above, development on the project site would not interfere or impede with wildlife movement, corridors, or nursery sites; and impacts would be **less than significant**.

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

Section 14.12.200 of the City's Municipal Code provides that where a permit is required for excavation, fill, or obstruction for installation or repair of utilities under any public street, sidewalk, trail, or public place, such construction should be located away from trees. As described in Chapter 2, Project Description, the project would likely require utility work within public streets including sewer and water improvements, storm drainage facilities, and roadway network improvements. However, as a requirement under the City's Municipal Code to obtain an excavation permit, such construction will be located away from trees and not otherwise require the removal of trees within the public right-of-way. In the case that construction away from trees is unavoidable, the applicant will confer with the Director of Development Services, or their designee, to determine how best to avoid conflicts with mature trees and their root systems. The project would be required to demonstrate compliance with this requirement to the satisfaction of the Director to obtain an excavation permit.

Per General Plan Policy COS-2.6, healthy mature trees are to be preserved, where feasible; and where removal is necessary, trees shall be replaced at a ratio of 1:1. The project would incorporate a conceptual landscape plan that would detail tree planting plans and would be drafted to be aligned with all relevant General Plan policies, including this tree preservation policy.

Further, as discussed in Section 3.10 of this EIR, the project would be consistent with the City's General Plan Conservation and Open Space Element. The project would conserve existing biological resources to the extent feasible and incorporate open space area into the project design plans which would be subject to City review. Therefore, it is determined that the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance and impacts would be **less than significant**.

Threshold #6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project is not located within a designated Biological Core Linkage Area or Focused Planning Area, and therefore, it is consistent with the conservation policies of the Draft San Marcos Subarea Plan. In addition, the project would be required to conform to the goals and policies in the City of San Marcos General Plan (City of San Marcos 2012) related to the protection of biological resources. Following implementation of proposed mitigation measures, the project is expected to be found to be in conformance with the Draft San Marcos Subarea Plan and the General Plan. Therefore, with implementation of proposed mitigation, impacts to regional resource planning would be **less than significant**.

3.3.6 Cumulative Impact Analysis

Special-Status Plant and Animal Species

Cumulative impacts consider the potential regional effects of a project and how a project may affect an ecosystem or one of its members beyond the project limits and on a regional scale. As discussed, the project would have potentially significant impacts associated with coastal California gnatcatcher and least Bell's vireo; however, implementation of MM-BIO-3 through MM-BIO-13 would reduce these impacts to a level below significance. The project would not have significant impacts on special-status plant species.

Similar to the project, cumulative projects would be required to mitigate impacts by avoiding the grading or clearing of suitable habitat for sensitive wildlife during the breeding season, or by conducting pre-construction surveys to avoid sensitive species if construction would occur during the breeding season. Through the implementation of required mitigation, impacts to present and potentially present sensitive wildlife species would be reduced to a level below significance for the project and for cumulative projects. Therefore, cumulative impacts with regard to special-status wildlife species would not be cumulatively considerable.

Sensitive Natural Communities

The project would directly contribute to the cumulative loss of 1.09 acres of wetland communities, 0.84 acres of coastal sage scrub, and 1.08 acres of "other lands." Impacts to wetland communities include 0.12 acres of Arundo-dominated riparian and 0.54 acres of tamarisk scrub (see Table 3.3-5). Permanent impacts to non-native vegetation communities/land covers totaling 0.74 acres are not considered significant because these land covers are not considered sensitive; they are non-native and provide little biological resource value. Direct permanent impacts to native wetland and coastal sage scrub communities would be considered significant absent mitigation. The project will result in the preservation of 7.32 acres of sensitive upland vegetation communities and 0.76 acres of wetland

vegetation communities (MM-BIO-1). Implementation of MM-BIO-1 will provide for the required 1:1 mitigation for impacts to coastal sage scrub and the preservation of 0.76 acres of wetlands and vernal pools will provide partial mitigation for impacts to wetland vegetation communities. To compensate for the loss of wetland vegetation communities the project will implement invasive species removal and restoration as well as vernal pool restoration (MM-BIO-2). Implementation of MM-BIO-1 and MM-BIO-2 would reduce potential project impacts to less than significant.

Cumulative projects would be required to mitigate their individual impacts to sensitive vegetation communities through either on-site preservation/restoration and/or off-site habitat acquisition, typically at a 2:1 or 3:1 ratio. Therefore, because the project and cumulative projects would be required to mitigate for habitat loss, impacts related to the loss of sensitive vegetation communities would not be cumulatively considerable.

Jurisdictional Waters and Wetlands

As analyzed above, implementing the project would result in potentially significant impacts to protected jurisdictional resources regulated by the USACE, RWQCB, and CDFW. The project would be required to secure the necessary regulatory permits prior to impacts per mitigation measure MM-BIO-13. It is anticipated that a 404 permit from the USACE, 401 Certification from the RWQCB, and a 1600 agreement from CDFW would be needed. If the wetlands or waters on-site are ruled non-jurisdictional by USACE, it is anticipated that a Waste Discharge Requirement Permit from RWQCB and a 1600 agreement from CDFW would be required. Mitigation for impacts to jurisdictional aquatic resources would occur through the on-site preservation of 0.8 acres of emergent wetland and vernal pools (MM-BIO-1) as well as on-site invasive species removal and vernal pool restoration (MM-BIO-2). In addition, all impacts to jurisdictional aquatic resources would require consultation with the regulatory agencies (MM-BIO-13). The proposed mitigation would compensate for impacts to jurisdictional resources such that impacts would be reduced to below a level of significance.

Like the project, it is presumed that all reasonably foreseeable cumulative projects would be required to conform to existing regulations with respect to avoidance, minimization, and mitigation of impacts to sensitive habitat, achieving no-net-loss of wetlands and like/kind replacement for impacts to sensitive habitat that cannot be avoided. The regulatory permitting process ensures that every project with unavoidable impacts on jurisdictional resources implements required avoidance, minimization, and compensatory mitigation measures and obtains the appropriate permits. Projects in the region are required to meet a no-net-loss standard for both function and spatial area of wetland and non-wetland resources. Therefore, the project would not contribute to a cumulative impact to jurisdictional waters and wetlands.

Conflict with Local Ordinances/Tree Preservation Policies

Like the project, it is presumed that all reasonably foreseeable cumulative projects would be required to conform to the City's Municipal Code requirements and General Plan Policies for tree replacement. Therefore, the project would not contribute to a cumulative impact related to a conflict with tree preservation policies.

Conflict with Adopted Habitat Management Plan

The project is not located within a designated Biological Core Linkage Area or Focused Planning Area, and therefore, it is consistent with the conservation policies in the Draft San Marcos Subarea Plan. In addition, the project would be required to conform to the goals and policies in the City of San Marcos General Plan (City of San Marcos 2012) related to the protection of biological resources. Following implementation of proposed mitigation measures, the project is expected to be found to be in conformance with the Draft San Marcos Subarea Plan and the General Plan. Therefore, no impacts related to regional resource planning are anticipated.

In sum, all reasonably foreseeable cumulative projects within the City of San Marcos would be required to be consistent with the conservation policies in the Draft San Marcos Subarea Plan and goals and policies in the City of San Marcos General Plan related to the protection of biological resources. Impacts would be assessed on a regional basis and mitigated pursuant to CEQA, and those projects within the City's jurisdiction would be reviewed by the City during the project review and approval process. For these reasons, project impacts to biological resources related to regional resource planning are not cumulatively considerable.

3.3.7 Mitigation Measures

MM-BIO-1 through MM-BIO-13 outlined below would reduce potential impacts related to special status wildlife, would reduce potential impacts on sensitive natural communities, and would ensure that the appropriate permits are obtained and that impacts are compensated in accordance with USACE, RWQCB, and CDFW requirements. With implementation of MM-BIO-1 through MM-BIO--13, impacts to biological resources as a result of project implementation would be reduced a level of less than significant.

MM-BIO-1 **On-Site Preservation.** Impacts to sensitive vegetation shall be mitigated through the on-site preservation of 8.07 acres of sensitive upland and wetland vegetation. The project shall result in the preservation of 7.32 acres of sensitive upland vegetation communities and 0.76 acres of wetland vegetation communities (which includes 0.02 acres of restored areas per MM-BIO-2). A land manager shall be identified to ensure that the project is managed and protected in perpetuity. A conservation easement for

the 8.07 acres shall be recorded prior to the issuance of a grading permit or other timing agreed upon by the Planning Division Director or their designee.

MM-BIO-2 **On-site Habitat Restoration.** On-site habitat restoration will consist of the removal and restoration of invasive species, vernal pool restoration, and development of a habitat restoration plan.

Invasive Species Removal. The 0.02 acres of tamarisk scrub will be restored to native emergent wetland habitat through the removal of the tamarisk and other non-native plant species. Tamarisk will be cut and stump treated with herbicide, and the other non-native species will be removed with a combination of herbicide application, mowing (line trimmers), and hand weeding. With the removal of those invasive species, the site will be planted and seeded to establish native emergent wetland species found on site, including but not limited to pale spikerush, Mexican rush, iris-leaf rush, alkali mallow (*Malvella leprosa*), and pickleweed.

Vernal Pool Restoration. Vernal pool restoration will include some minor recontouring of the existing vernal pool basin where appropriate, mostly where vernal pools have been altered by road ruts, trail berms, and other past disturbances to the site. Any recontouring will avoid impacts to existing vernal pools and existing sensitive species and is intended to develop new pools or to expand pools from existing locations. Along with this minor recontouring, weed control will also be conducted in the vernal pools and surrounding watershed areas. Weed control will consist of a combination of herbicide application, mowing (line trimmers), and hand weeding. Vernal pools on site that are low in diversity, particularly those at the south end of the project, will be planted and seeded with vernal pools species known from the site. Seed collected for this purpose will come from on-site sources only. This will include, but is not limited to San Diego button celery, spreading navarretia, pale spikerush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), toad rush (*Juncus bufonius*), smooth boisduvalia (*Epilobium campestris*), and wooly marbles (*Psilocarphus brevissimus*). Mitigation will not occur within the San Diego County Water Authority owned parcels. The project applicant will consult with the U.S. Fish and Wildlife Service to ensure that the mitigation plan does not impact listed species.

Habitat Restoration Plan. The applicant shall prepare a conceptual habitat restoration plan outlining the restoration described above. Upon approval a 5-year implementation effort would follow the plan, including topographic reconstruction, weed control, seeding, container planting, irrigation, and a program of monitoring and reporting.

The restoration plan shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. The plan should include, at a minimum: (a) a description of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. As part of the mitigation planning a PAR-like cost evaluation will be developed and approved by USFWS to help determine long term costs in the endowment required to support those costs. The applicant is required to fund the endowment before the issuance of grading permits, and the endowment agreement shall be approved by USFWS.

MM-BIO-3 **Landscaping.** The applicant shall ensure that development landscaping adjacent to on- or off-site habitat does not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include any species listed on the California Invasive Plant Council's (Cal-IPC) "Invasive Plant Inventory" List. In addition, landscaping should not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserved lands and water runoff from landscaped areas should be directed away from the biological conservation easement area and contained and/or treated within the development footprint. The applicant shall ensure that development lighting adjacent to all on- or off-site habitat shall be directed away from and/or shielded so as not to illuminate native habitats.

MM-BIO-4 **Temporary Installation Fencing.** The project applicant shall temporarily fence the limits of the project impact footprint and install other appropriate sediment trapping devices to prevent additional impacts to, and the spread of silt from the construction zone into, adjacent habitats to be avoided. Fencing and sediment trapping devices will be installed in a manner that does not impact habitats to be avoided.

If work occurs beyond the fenced limits of impact, all work will cease until the problem has been remedied to the satisfaction of the City. Any habitat impacts that occur beyond the authorized work will be offset at ratios approved by the City. Temporary construction fencing and sediment trapping devices will be removed upon project completion.

MM-BIO-5 **Environmental Awareness Training.** A Workers Environmental Awareness Training Program shall be implemented with the contractor and all active construction personnel prior to construction to ensure knowledge of sensitive wildlife which may occur on site

including coastal California gnatcatcher and least Bell's vireo, their habitat, and general compliance with environmental/permit regulations and mitigation measures.

At a minimum, training will include a discussion of the following topics: (1) the purpose for resource protection; (2) a description of the coastal California gnatcatcher and least Bell's vireo and their habitat; (3) descriptions of the special-status plants and their habitat, (4) the MMs outlined in this report that should be implemented during project construction to conserve the sensitive resource, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (4) environmentally responsible construction practices; (5) the protocol to resolve conflicts that may arise at any time during the construction process; and, (6) the general provisions of the FESA and California Endangered Species Act (CESA), the need to adhere to the provisions of the FESA and CESA, and the penalties associated with violating the FESA and CESA.

MM-BIO-6 **Breeding Season Avoidance.** The removal of coastal sage scrub and wetland vegetation from the project impact footprint will occur from September 1 to February 14 to avoid the bird breeding season. Further, to the maximum extent practicable, grading activities associated with construction of the project will occur from September 1 to February 14 to avoid the breeding season. If project construction must occur during the breeding season, MM-BIO-10 and MM-BIO-11 will be implemented.

MM-BIO-7 **Work Hours.** Project construction will occur during daylight hours. However, if temporary night work is required, night lighting shall abide by city standards and shall be, selectively placed, shielded, and directed away from natural habitats.

MM-BIO-8 **Construction Best Management Practices.** The project applicant will ensure that the following conditions are implemented during project construction in order to minimize potential impacts to sensitive vegetation and species:

1. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint;
2. To avoid attracting predators, the project site will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site;
3. Pets of project personnel will not be allowed on the project site; and,
4. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures consistent with the Construction General Permit Order 2009-009-DWQ.

MM-BIO-9 **Biological Monitor Requirements and Duties.** A qualified biologist will be on site daily during initial clearing/grubbing and weekly during grading activities within 500 feet of coastal California gnatcatcher and least Bell's vireo habitat to ensure compliance with all project-imposed mitigation measures. The biologist will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the project's engineer to ensure that issues relating to coastal California gnatcatcher, least Bell's vireo and their habitat are appropriately and lawfully managed.

The qualified biological monitor will also be responsible for the following duties:

1. Oversee installation of and inspect temporary fencing and erosion control measures within or up-slope of avoided and/or preserved areas a minimum of once per week during installation and daily during all rain events until established to ensure that any breaks in the fence or erosion control measures are repaired immediately.
2. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.
3. Halt work, if necessary, and confer with the USFWS and City to ensure the proper implementation of species and habitat protection measures. The biologist will report any violation to the USFWS and City within 24 hours of its occurrence.
4. Submit weekly letter reports (including photographs of impact areas) via regular or electronic mail (email) to the City during clearing/grubbing of potential habitat and/or project construction resulting in ground disturbance within 500 feet of avoided potential habitat. The weekly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the duration of monitoring, the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of any coastal California gnatcatcher/least Bell's vireo and nests, sex, observed behavior (especially in relation to construction activities), and remedial measures employed to avoid, minimize, and mitigate impacts to coastal California gnatcatcher/least Bell's vireo and nests.
5. Submit a final report to the City within 60 days of project completion that includes the following: (1) as-built construction drawings for grading with an overlay of any active nests; (2) photographs of habitat areas during pre-construction and post-construction conditions; and (3) other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with the avoidance/minimization provisions and monitoring program as required by the USFWS were achieved.

MM-BIO-10 **California Gnatcatcher Survey.** For initial clearing/grubbing of coastal California gnatcatcher habitat within the project development footprint, a biologist holding a Section 10(a)(1)(A) permit shall perform a minimum of three (3) focused surveys, on separate days, to determine the presence of California gnatcatchers or nests in the project impact footprint. Surveys will begin a maximum of seven (7) days prior to performing initial clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of clearing/grubbing. If any coastal California gnatcatchers are found in the project impact footprint, the biologist will direct construction personnel to begin clearing/grubbing in an area away from the coastal California gnatcatchers and attempt to flush coastal California gnatcatchers away from clearing/grubbing so that coastal California gnatcatchers will not be injured or killed by clearing/grubbing activities. If an active coastal California gnatcatcher nest is found, the nest will be avoided until nesting is confirmed to be completed by the biologist. The project applicant will notify the USFWS at least seven (7) days prior to the initiation of surveys and within 24 hours of locating any California gnatcatcher and/or nest.

MM-BIO-11 **California Gnatcatcher Nest Avoidance and Minimization Measures.** If an active coastal California gnatcatcher (*Polioptila californica californica*) nest is found on site or within 500 feet of project grading activities, the biologist shall postpone work within 500 feet of the nest and contact the U.S. Fish and Wildlife Service (USFWS) and the City of San Marcos to discuss (1) the best approach to avoid/minimize impacts to nesting coastal California gnatcatchers (e.g., sound walls, noise monitoring); and (2) a nest monitoring program acceptable to USFWS. Subsequent to these discussions, work may be initiated subject to implementation of the agreed-upon avoidance/minimization approach and monitoring program. If the biologist determines that bird breeding behavior is being disrupted, the project applicant shall stop work and coordinate with USFWS to review the avoidance/minimization approach. Upon agreement as to any necessary revisions to the avoidance/minimization approach, work may resume subject to the revisions and continued monitoring. Success or failure of an active nest shall be established by regular and frequent trips to the site, as determined by the biologist and through a schedule approved by the wildlife agencies. Monitoring of an active nest shall continue until fledglings have dispersed or the nest has been determined to be a failure, as approved by USFWS.

MM-BIO-12 **General Pre-Construction Surveys.** This mitigation measure serves to avoid take of birds protected under the Migratory Bird Treaty Act and California Fish and Game Code during the nesting season.

Nesting Bird Survey. To avoid any direct impacts on raptors and/or any migratory birds protected under the Migratory Bird Treaty Act and California Fish and Game Code,

removal of habitat that supports active nests on the proposed area of disturbance shall occur outside the nesting season for these species (which is February 15 through August 31, annually). If construction occurs during the nesting season then preconstruction nesting bird surveys must be conducted within 72 hours of construction-related activities. If nesting birds are detected by the biologist, the following buffers shall be established: 1) no work within 300 feet of a non-listed nesting migratory bird nest, and 2) no work within 500 feet of a listed bird or raptor nest. However, the biologist may reduce these buffer widths depending on site-specific conditions (e.g. the width and type of screening vegetation between the nest and proposed activity) or the existing ambient level of activity (e.g., existing level of human activity within the buffer distance) in conjunction with consultation with the City. If construction must take place within the recommended buffer widths above, the project applicant will contact the City and Wildlife Agencies to determine the appropriate buffer.

MM-BIO-13 **Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the project applicant or its designee shall obtain the following permits: USACE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement. The project applicant will consult with the U.S. Fish and Wildlife Service and get approval of the mitigation plan to ensure that it does not impact listed species.

3.3.8 Conclusion

As described throughout Section 3.3.5, Project Impact Analysis, implementation of the project would result in potentially significant impacts to biological resources (Impact BIO-1, Impact BIO-2, and Impact BIO-3). However, compliance with existing regulations and implementation of proposed mitigation measures MM-BIO-1 through MM-BIO-13 outlined in Section 3.3.7, would reduce impacts to biological resources to a level of less than significant. Implementation of proposed mitigation, and City review of project plans for the site would ensure impacts to biological resources would be reduced to a level of **less than significant**.

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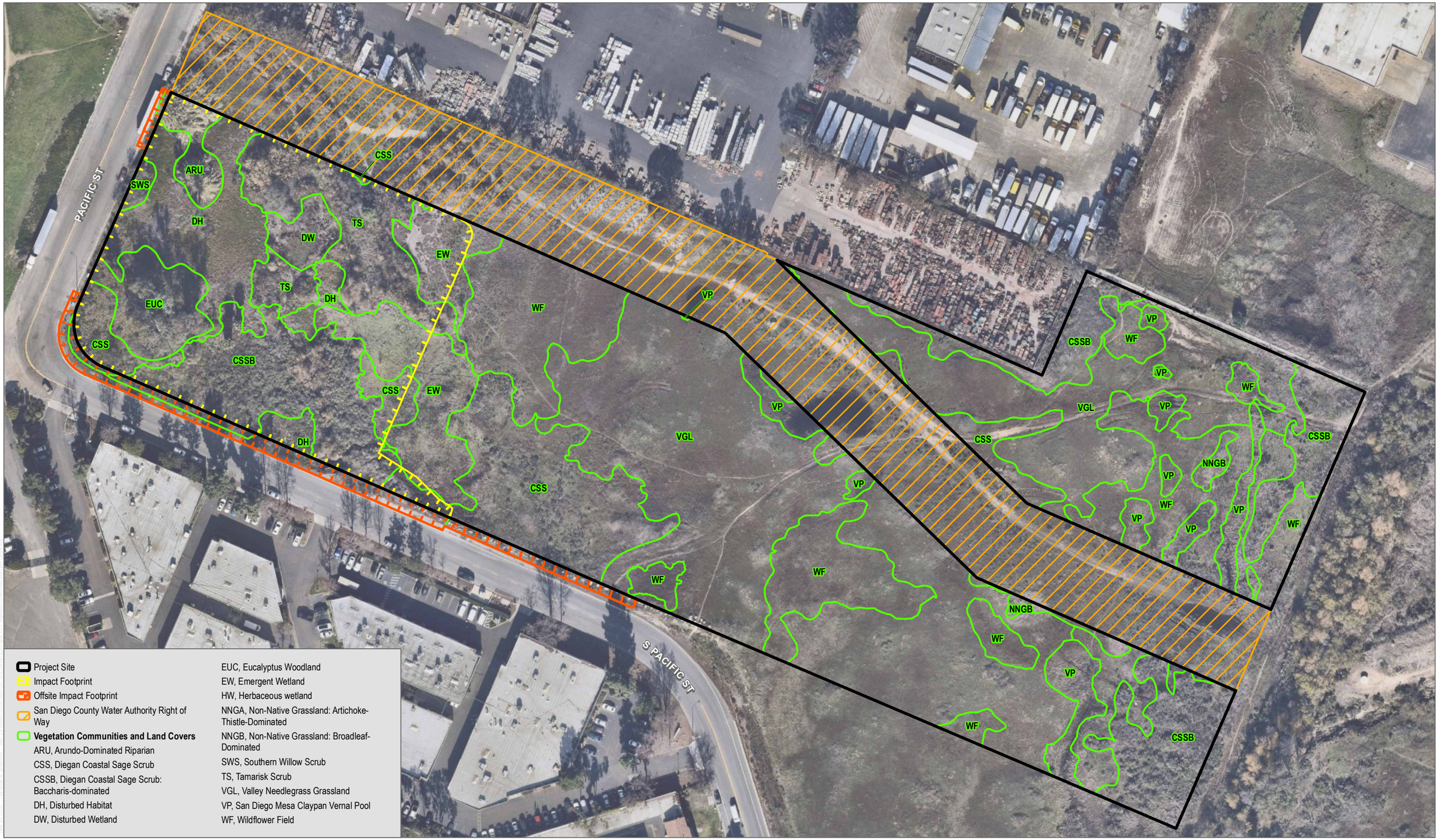

SOURCE: SanGIS 2019; Open Street Map 2019

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0 50 100 Feet

FIGURE 3.3-1

Vegetation Communities and Land Covers

Hughes Circuits Project Environmental Impact Report

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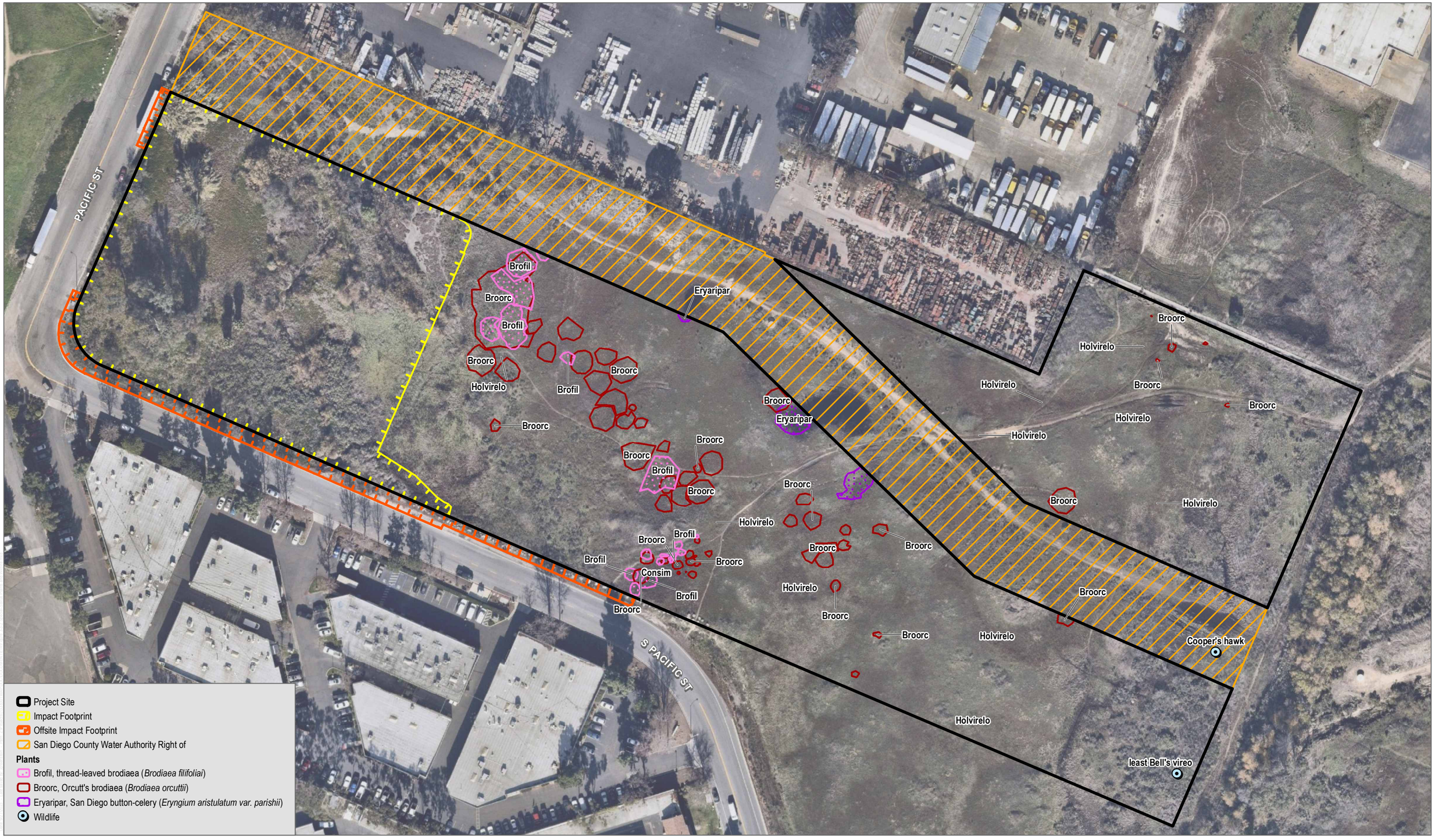

SOURCE: SanGIS 2019; Open Street Map 2019

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FIGURE 3.3-2

Special-Status Plants and Wildlife

Hughes Circuits Project Environmental Impact Report

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3.4 CULTURAL RESOURCES

This section describes the existing cultural resources of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project.

The analysis in this section relies, in part, on the Archaeological Resources Inventory Report for the Hughes Circuits Project, City of San Marcos, California (Archaeological Resources Report) prepared by Dudek on January 13, 2023. The archaeological resources report included a record search, archival research, correspondence with Native American contacts, and a pedestrian survey. The analysis also considers the California Environmental Quality Act (CEQA) Guidelines Appendix G and applicable state and local regulations, including the City of San Marcos General Plan. The Archaeological Resources Report is included as Appendix D to this environmental impact report (EIR).

Table 3.4-1 summarizes the project- and cumulative-level cultural resources impacts, by threshold.

Table 3.4-1
Cultural Resources Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 – Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	No Impact	No Impact	No Impact
#2 – Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	Potentially Significant	Less than Significant with Mitigation	Less than Significant with MM-CR-1 through MM-CR-3
#3 – Disturb any human remains, including those interred outside of dedicated cemeteries.	Potentially Significant	Less than Significant with Mitigation	Less than Significant with MM-CR-1 through MM-CR-4

3.4.1 Existing Conditions

The project area, as analyzed in the Archaeological Resources Report, consists of the entire of the project site, approximately 10.46 acres (Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00) (see Figure 3.16-1, Area of Potential Effects (APE)). The entire project area is undeveloped and contains no structures. Adjacent land uses include mixed commercial development to the north and south, a public recreation park (Bradley Park) to the west, and undeveloped land to the east. The Las Posas Branch tributary to San Marcos Creek is located on the border of the western section of the project area, and a second tributary runs through the project area on the eastern side to San Marcos Creek.

The project area predominantly contains grass, thistles, Hardy ice plants, and sage. Modern debris (e.g., refuse) is strewn throughout the project area and a homeless encampment was observed in the bushes on the northwestern portion of the project area. The project site falls within Section 16 of Township 12 South, Range 3 West of the San Marcos, California 7.5-minute Quadrangle.

Methodology

Records Search

Dudek conducted a California Historical Resources Information Systems records search of the project APE and a one-mile radius buffer at the South Coastal Information Center (SCIC) on January 31, 2022. The records search results indicate that 53 previous cultural resources studies have been conducted within 1 mile of the project area. Of the 53 previous studies, five studies intersect the project area. These studies consist primarily of an archaeological inventory report, two cultural resource reconnaissance reports, an EIR, and a records search and literature review. Overall, 100% of the project area has been previously studied.

The SCIC records search did not identify any cultural resources within the project area. The records search did identify eight cultural resources within the one-mile search radius buffer of the project area. Of the total eight resources identified in the 1-mile buffer, six are prehistoric resources and two are historic resources. No historic addresses are located within the project area, however, two are located within the 1-mile search radius. Refer to Appendix D for further details.

Archival Research

Dudek conducted an on-line review of historic aerial photographs of the project area and general vicinity, to help determine the possible development and land use of the project area in the past. Historic aerial photographs of the project APE were available for 1938, 1947, 1953, 1964, 1967, 1980–1991, 1993–2000, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (NETR 2022). The historical aerials from 1938 to 1967 revealed that project area was undeveloped. By 1978, some dirt trails can be observed within the area and to the north of the area, grading was observed, and two structures were developed. By 1980, the road for South Pacific Street is developed, the surrounding properties have been graded, and residential/commercial development is present. The aerials from 1981–1984 do not reveal any changes to the area. By 1985, some light surface disturbance is observed within a small section of the southern area. The 1986 aerial shows some slight disturbance to the area in the form of dirt trails. The aerials from 1987–1994 do not reveal any changes to the area. The 1993 aerial shows some disturbance to the eastern portion of the area, and by 1996, dirt trails or a dirt road become more prominent within the area. The aerials from 1997 to 2018 do not reveal any changes to the area. The entire portion of the project area has remained undeveloped. No historic structures are located within the project area. The review of the

aerial photographs reveals that a majority of the project area has not been highly disturbed by earth moving activities.

Historic topographic maps of the project area were reviewed (earliest map available is 1893). A creek is observed within the western section of the project area, however, on the 1979 topographic map, the creek is no longer observed within the project area. The historic topographic maps do not reveal any historic structures located within the project area.

Dudek reviewed a geotechnical report prepared for the project area (Appendix E). The report details the results of six exploratory bores to a maximum depth of 14 feet on September 1, 2021, however, the report only covered a small portion of the western section of the project area. Undocumented fill was encountered to a depth of approximately 2 feet. Alluvium was encountered in all trenches to depths ranging between 3.5 to 10 feet. Tertiary-age Santiago Formation was encountered below the undocumented fill and alluvium across the site, at depths between 3.5 and 10 feet below existing grade.

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2022), three soil types are mapped in the project area, including Las Flores loamy fine sand, 2% to 9% slopes, located in the central section of the project area, Las Flores-Urban land complex, 2% to 9% slopes, located along the western border of the project area, and Placentia sandy loam, thick surface, 0% to 2% slopes, located along the southern and eastern sections of the project area. The Las Flores soil series generally occurs on hillslopes, formed in residuum weathered from siliceous calcareous sandstone, and are typically at an elevation of 700 feet, The Placentia soil series generally occur in settings with alluvial fans, formed in alluvium derived from granite, and are typically at elevations ranging from 50 to 2,500 feet. Reoccurring alluvial action and flooding serve to support the development and presence of cultural deposits in the area. Since there are alluvial soils present throughout the project area, there is moderate potential for subsurface cultural resources.

Native American Heritage Commission and Native American Outreach Letters

Dudek requested a Native American Heritage Commission (NAHC) search of the Sacred Lands File on January 31, 2022, for the project area. The Sacred Lands File consists of a database of known Native American resources. These resources may not be included in the SCIC database. The NAHC replied on March 24, 2022, with negative results (Appendix D). The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area.

Thirty-one outreach letters were mailed on March 24, 2022, to all Native American group representatives included on the NAHC contact list (Appendix D). These letters solicited, or attempted to elicit additional information relating to Native American resources that may be impacted by the project. Native American representatives were requested to define a general area where known resources intersect the project area. Three responses have been received to date. A response was

received from the Rincon Band of Luiseno Indians on April 25, 2022 stating that the project is located within a culturally-sensitive area and the potential exists that the project may impact tangible Tribal Cultural Resources (TCRs), Traditional Cultural Landscapes, and potential Traditional Cultural Properties. A response was received from the San Luis Rey Band of Mission Indians on April 26, 2022, stating that they are aware of cultural resources within close proximity to the project and recommends including a Luiseño Native American monitor during all ground disturbing activities. A response was received from the San Pasqual Band of Mission Indians on May 5, 2022, stating that the project is within their Traditional Use Area. The letters have been forwarded to the City. No other communications between Dudek and the tribes has occurred since then. The NAHC correspondence is included in Appendix D.

In compliance with Assembly Bill (AB) 52, the City of San Marcos (City), as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. The City mailed AB 52 notifications on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three~~Two~~ tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, ~~and~~ the San Luis Rey Band of Mission Indians on June 6, 2022, and the San Pasqual Band of Diegueño Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024.

Intensive Pedestrian Survey

A Dudek archaeologist conducted an intensive level pedestrian survey of the project area on February 3, 2022. A Luiseño Native American monitor from Saving Sacred Sites participated in the pedestrian survey. All survey work was conducted employing standard archaeological procedures and techniques consistent with the Secretary of the Interior Standards. Five-meter interval survey transects were conducted in an east-west direction for the project area. Within the transects, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools,

ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

The project area is relatively flat and undeveloped. Some disturbances were observed, such as a dirt road on the eastern portion of the project area, and a drainage feature from a sewer running north to south. Ground visibility was poor (0%–20%) in areas where the ground surface was obscured by vegetation. Approximately 75% of the area was obscured by grass, thistles, Hardy ice plants, and sage. Modern debris (e.g., refuse) is strewn throughout the area and a homeless encampment was observed in the bushes on the northwestern portion of the project area. The pedestrian survey did not identify any cultural or built environment resources within the project area.

3.4.2 Regulatory Setting

The following section provides a general description of the applicable regulatory requirements pertaining to cultural resources, including state, and local guidelines.

State

California Register of Historical Resources and the California Environmental Quality Act

Under CEQA, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). A resource may be listed as an historical resource in the CRHR if it meets any of the following National Register of Historic Places criteria (PRC Section 5024.1[c]):

- Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Associated with the 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.
- Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR Section 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the National Register of Historic Places, and properties listed or formally designated as eligible for listing on the National Register of Historic Places are automatically listed on the CRHR, as are the State Historical Landmarks numbered 770 or higher and California Points of Historical Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

Native American Historic Cultural Sites (California Public Resources Code 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 150064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Health and Safety Code Section 7050.5 and PRC Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area

reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Section 7050.5[b]). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with PRC Section 5097.98(a), the NAHC will notify the most likely descendant. With the permission of the landowner, the most likely descendant may inspect the site of discovery. Within 48 hours of being granted access to the site, the most likely descendant may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

Assembly Bill 52

California Assembly Bill 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies to address tribal concerns regarding project impacts and mitigation to TCRs. PRC Section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. listed or eligible for listing in the CRHR or a local register of historical resources as defined in PRC Section 5020.1(k), or
2. determined by a lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c).

Local

City of San Marcos General Plan

Conservation and Open Space Element

The Conservation and Open Space Element of the City's General Plan contains several policies pertaining to the protection of archaeological and historic resources. The following goals and policies apply to the project (City of San Marcos 2012):

- **Policy COS-2.5:** Continue to review future development proposals to ensure that cultural resources (including prehistoric, historic, paleontological, and SB 18 Tribal resources) are analyzed and conserved in compliance with CEQA requirements.
- **Goal COS-11:** Continue to identify and evaluate cultural, historic, archaeological, paleontological and architectural resources for protection from demolition and inappropriate actions.
    - **Policy COS-11.1:** Identify and protect historic and cultural resources including individual properties, districts and sites (e.g., archaeological sites) in compliance with CEQA.

- **Policy COS-11.2**: Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of alternatives to preservation in place including but not limited to relocation, or reconstruction off-site, and/or photo-preservation.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning, of this EIR. As detailed in Section 3.10.4, the project is consistent with the applicable General Plan goals and policies pertaining to cultural resources.

3.4.3 Thresholds of Significance

The determination of significance for cultural resources is based on CEQA Guidelines Appendix G. Impacts to cultural resources would be significant if the project would:

- **Threshold #1:** Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5
- **Threshold #2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5
- **Threshold #3:** Disturb any human remains, including those interred outside of dedicated cemeteries

3.4.4 Project Impact Analysis

Impacts to cultural resources that may result from ground disturbing activities associated with the project are analyzed below.

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

Section 15064.5 of the CEQA Guidelines defines a historical resource as one that meets one or more of the following criteria:

1. Is listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; or
2. Is included in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
3. Is determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

As identified in Section 3.4.1, no historic resources exist at the project area. Based upon archival research and aerial photographs, there are no historical-era (greater than 45 years old) structures

present on the project area. The SCIC records search did not identify any historic addresses recorded within the project area. Therefore, it is determined that, **no impact** related to historical resources would occur as a result of project implementation.

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

As identified in Section 3.4.1, Existing Conditions, no cultural resources were found at the project area during the pedestrian survey or records search. As described in the Archaeological Resources Report (Appendix D), Dudek's Phase I cultural resources inventory of the project indicates that there is a moderate sensitivity for identifying intact subsurface archaeological deposits during project implementation. the SCIC records search, NAHC Sacred Lands File search, Native American outreach, and intensive-level survey did not identify any cultural resources within the project area, however, the review of aerial photographs also reveals that a majority of the project area has not been highly disturbed by earth moving activities. In addition, two tributaries are located within the project area, which would have been an attractive resource for prehistoric people. Reoccurring alluvial action and flooding serve to support the development and presence of cultural deposits in the area. Since there are alluvial soils present throughout the project area, there is a moderate potential that buried cultural resources deposits may be encountered during excavation. To further ensure project development would not result in potential impacts to cultural resources, the project would implement the cultural Mitigation Measure (MM-)CR-1 through MM-CR-3, outlined in Section 3.4.6, Mitigation Measures. Project implementation of MM-CR-1 through MM-CR-3 would ensure that potential impacts to archaeological resources pursuant to CEQA Guidelines Section 15064.5 would be **less than significant with mitigation incorporated**.

Threshold #3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

The project area is not used as a cemetery and is not otherwise known to contain human remains. The pedestrian field survey conducted for the project did not identify any human remains or find any indications that they would be expected to be found at the project area. However, although unlikely, there is the possibility of human remains being discovered during ground disturbing activities at the project area. Therefore, potential discovery of undocumented human remains on the project site could result in a potentially significant impact. If remains are discovered during project construction activities, mitigation is proposed that would require work in the vicinity of the discovery be halted and procedures set forth in PRC Section 5097.98 and State Health and Safety Code Section 7050.5 be followed. The project would be required to comply with Section 7050.5 of the California Health and Safety Code and the project would implement MM-CR-4, outlined in Section 3.4.6. Project implementation of MM-CR-4 would ensure that potential impacts to human remains would be **less than significant**.

3.4.5 Cumulative Impact Analysis

According to CEQA, the importance of cultural resources comes from the research value and the information they contain, as well as the loss of recognized cultural landmarks and vestiges of our community cultural history. The cumulative study area includes the project area and cumulative project sites.

As identified in Section 3.4.4, Project Impact Analysis, no historical resources exist at the project area. Thus, no impact to historical resources would occur with implementation of the project. It is expected that cultural resources studies would be prepared for all cumulative projects to assess potential impacts, and that these projects would avoid or mitigate impacts to historical resources, as required by local jurisdictions and state law.

As identified in Section 3.4.4, no cultural resources were identified at the project area during the SCIC records search, NAHC Sacred Lands File search, and the pedestrian survey. However, there is a moderate potential that buried cultural resources deposits may be encountered during excavation. To further ensure project development would not result in potential impacts to cultural resources, the project would implement MM-CR-1 through MM-CR-3 to ensure that potential impacts to archaeological resources pursuant to CEQA Guidelines Section 15064.5 would remain less than significant. It is expected that cultural resources studies would be prepared for all other cumulative projects to assess potential impacts, and that these projects would similarly avoid or mitigate impacts to cultural resources, as required by local jurisdictions and state law.

Similar to the project, the presence of human remains on cumulative project sites would typically remain unknown for cumulative projects until earthwork activities commence for project construction. As identified in Section 3.4.4, the project area is not used as a cemetery and is not otherwise known to contain human remains, and the pedestrian field survey conducted for the project did not identify any human remains or find any indications that they would be expected to be found at the project area. However, although unlikely, there is the possibility of human remains being discovered during ground disturbing activities at the project area. If remains are discovered during project construction activities, the project would be required to comply with Section 7050.5 of the California Health and Safety Code, and MM-CR-4 would be implemented to ensure that potential impacts to human remains would be less than significant. It is expected that all cumulative projects would similarly assess potential impacts to human remains, and that these cumulative projects would avoid or mitigate these impacts, as required by local jurisdictions and state law.

Because the project and those projects identified within the cumulative study area would be required to mitigate cultural resources impacts through the collection and curation of information, construction monitoring, and the preservation of the most important resources, cumulative cultural resources impacts would be **less than significant**.

3.4.6 Mitigation Measures

Implementation of MM-CR-1 through MM-CR-3 would ensure that potential impacts to archaeological resources pursuant to CEQA Guidelines Section 15064.5 (Impact CR-1) would remain less than significant, as identified above in response to Threshold #2. Implementation of MM-CR-4 would ensure that potential impacts to human remains (Impact CR-2) would be less than significant, identified above in response to Threshold #3.

MM-CR-1 **Pre-Excavation Agreement:** Prior to the issuance of a Grading Permit, or ground disturbing activities, the Applicant/Owner shall enter into a Tribal Cultural Resources Treatment and Repatriation Agreement (Pre-Excavation Agreement) with a Traditionally and Culturally Affiliated Native American Tribe (TCA Tribe), identified in consultation with the City. The purpose of the Pre-Excavation Agreement shall be to formalize protocols and procedures between the Applicant/Owner and the TCA Tribe for the protection, treatment, and repatriation of Native American human remains, funerary objects, cultural and/or religious landscapes, ceremonial items, traditional gathering areas, and other tribal cultural resources. Such resources may be located within and/or discovered during ground disturbing and/or construction activities for the project, including any additional culturally appropriate archaeological studies, excavations, geotechnical investigations, grading, preparation for wet and dry infrastructure, and other ground disturbing activities. Any project-specific Monitoring Plans and/or excavation plans prepared by the project archaeologist shall include the TCA Tribe requirements for protocols and protection of tribal cultural resources that were agreed to during the tribal consultation.

The landowner shall relinquish ownership of all non-burial related tribal cultural resources collected during construction monitoring and from any previous archaeological studies or excavations on the project site to the TCA Tribe for proper treatment and disposition per the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent jurisdiction. The requirement and timing of such release of ownership, and the recipient thereof, shall be reflected in the Pre-Excavation Agreement. If the TCA Tribe does not accept the return of the cultural resources, then the cultural resources will be subject to curation.

MM-CR-2 **Construction Monitoring:** Prior to the issuance of a Grading Permit or ground disturbing activities, the Applicant/Owner or Grading Contractor shall provide written documentation (either as signed letters, contracts, or emails) to the City's Planning Division stating that a Qualified Archaeologist and Traditionally and Culturally Affiliated Native American monitor (TCA Native American monitor) have been retained at the Applicant/Owner or Grading Contractor's expense to implement the construction

monitoring program, as described in the Pre-Excavation Agreement. A monitor representing the San Pasqual Band of Mission Indians shall be provided the opportunity to monitor, should they choose to.

Native American monitoring shall include a monitor representing a TCA Tribe (Luiseño) and a monitor representing the San Pasqual Band of Mission Indians (if the San Pasqual Band elects to monitor). In the event that one or more TCA Tribe chooses not to enter into an agreement, or fails to respond to the offer, the City shall extend the opportunity for another TCA Tribe to provide a monitor. In the event that more than one TCA Tribe requests to provide a TCA Native American monitor for activities subject to these measures, the City will allow for either: 1) up to one monitor from each consulting tribe to be present simultaneously; or 2) for the tribes to develop a rotating schedule that alternates monitoring between the tribes on a daily or weekly basis. The monitors shall be provided at least 72 hours' notice of the initiation of construction and be kept reasonably apprised of changes to the construction schedule. In the event that a monitor is not present at the scheduled time, work can continue without the monitor present, as long as the notice was given and documented.

The Qualified Archaeologist and TCA Native American monitor shall be invited to attend all applicable pre-construction meetings with the General Contractor and/or associated subcontractors to present the construction monitoring program. The Qualified Archaeologist and TCA Native American monitor shall be present on site during grubbing, grading, trenching, and/or other ground-disturbing activities that occur in areas of native soil or other permeable natural surfaces that have the potential to unearth any evidence of potential archaeological resources or tribal cultural resources. In areas of artificial paving, the Qualified Archaeologist and TCA Native American monitor shall be present on site during grubbing, grading, trenching, and/or other ground disturbing activities that have the potential to disturb more than six inches below the original pre-project ground surface to identify any evidence of potential archaeological or tribal cultural resources. If export of soil is planned, consultation with the affiliated Tribes will have to be initiated. No monitoring of fill material, existing or imported, will be required if the General Contractor or developer can provide documentation to the satisfaction of the City that all fill materials being utilized at the site are either: 1) from existing commercial (previously permitted) sources of materials; or 2) are from private or other non-commercial sources that have been determined to be absent of tribal cultural resources by the Qualified Archaeologist and TCA Native American monitor.

The Qualified Archaeologist and TCA Native American monitor shall maintain ongoing collaborative coordination with one another during all ground disturbing activities. The

requirement for the construction monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The Applicant/Owner or Grading Contractor shall provide written notice to the Planning Division and the TCA Tribe, preferably through e-mail, of the start and end of all ground disturbing activities.

Prior to the release of any grading bonds, or prior to the issuance of any project Certificate of Occupancy, an archaeological monitoring report, which describes the results, analysis, and conclusions of the construction monitoring shall be submitted by the Qualified Archaeologist, along with any TCA Native American monitor's notes and comments received by the Qualified Archaeologist, to the Planning Division Manager for approval. Once approved, a final copy of the archaeological monitoring report shall be retained in a confidential City project file and may be released, as a formal condition of Assembly Bill (AB) 52 consultation, to Rincon Band of Luiseño Indians, San Luis Rey Band of Mission Indians, San Pasqual Band of Mission Indians, or any parties involved in the project specific monitoring or consultation process. A final copy of the report, with all confidential site records and appendices, will also be submitted to the South Coastal Information Center after approval by the City.

MM-CR-3 **Unanticipated Discovery Procedures:** Both the Qualified Archaeologist and the TCA Native American monitor may temporarily halt or divert ground disturbing activities if potential archaeological resources or tribal cultural resources are discovered during construction activities. Ground disturbing activities shall be temporarily directed away from the area of discovery for a reasonable amount of time to allow a determination of the resource's potential significance. Isolates and clearly non-significant archaeological resources (as determined by the Qualified Archaeologist, in consultation with the TCA Native American monitor) will be minimally documented in the field. All unearthed archaeological resources or tribal cultural resources will be collected, temporarily stored in a secure location (or as otherwise agreed upon by the Qualified Archaeologist and the TCA Tribe), and repatriated according to the terms of the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent jurisdiction.

If a determination is made that the archaeological resources or tribal cultural resources are considered potentially significant by the Qualified Archaeologist, the TCA Tribe, and the TCA Native American monitor, then the City and the TCA Tribe shall determine, in consultation with the Applicant/Owner and the Qualified Archaeologist, the culturally appropriate treatment of those resources.

If the Qualified Archaeologist, the TCA Tribe, and the TCA Native American monitor cannot agree on the significance or mitigation for such resources, these issues will be presented to the Planning Division Manager for decision. The Planning Division Manager shall make a determination based upon the provisions of CEQA and California Public Resources Code Section 21083.2(b) with respect to archaeological resources and California Public Resources Section 21704 and 21084.3 with respect to tribal cultural resources, and shall take into account the religious beliefs, cultural beliefs, customs, and practices of the TCA Tribe.

All sacred sites, significant tribal cultural resources, and/or unique archaeological resources encountered within the project area shall be avoided and preserved as the preferred mitigation. If avoidance of the resource is determined to be infeasible by the City as the Lead Agency, then the City shall require additional culturally appropriate mitigation to address the negative impact to the resource, such as, but not limited to, the funding of an ethnographic study and/or a data recovery plan, as determined by the City in consultation with the Qualified Archaeologist and the TCA Tribe. The TCA Tribe shall be notified and consulted regarding the determination and implementation of culturally appropriate mitigation and the drafting and finalization of any ethnographic study and/or data recovery plan, and/or other culturally appropriate mitigation. Any archaeological isolates or other cultural materials that cannot be avoided or preserved in place as the preferred mitigation shall be temporarily stored in a secure location on site (or as otherwise agreed upon by the Qualified Archaeologist and TCA Tribe), and repatriated according to the terms of the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent jurisdiction. The removal of any artifacts from the project site will be inventoried with oversight by the TCA Native American monitor.

If a data recovery plan is authorized as indicated above and the TCA Tribe does not object, then an adequate artifact sample to address research avenues previously identified for sites in the area will be collected using professional archaeological collection methods. If the Qualified Archaeologist collects such resources, the TCA Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the Qualified Archaeologist does not collect the cultural resources that are unearthed during the ground disturbing activities, the TCA Native American monitor may, at their discretion, collect said resources for later reburial or storage at a local curation facility, as described in the Pre-Excavation Agreement.

In the event that curation of archaeological resources or tribal cultural resources is required by a superseding regulatory agency, curation shall be conducted by an approved local facility within San Diego County and the curation shall be guided by

California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections. The City shall provide the Applicant/Owner final curation language and guidance on the project grading plans prior to issuance of the grading permit, if applicable, during project construction. The Applicant/Owner shall be responsible for all repatriation and curation costs and provide to the City written documentation from the TCA Tribe or the curation facility, whichever is most applicable, that the repatriation and/or curation have been completed.

MM-CR-4 **Human Remains:** As specified by California Health and Safety Code Section 7050.5, if human remains, or remains that are potentially human, are found on the project site during ground disturbing activities or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Medical Examiner's Office by telephone. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie adjacent remains (as determined by the Qualified Archaeologist and/or the TCA Native American monitor) shall occur until the Medical Examiner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98.

If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected (as determined by the Qualified Archaeologist and/or the TCA Native American monitor), and consultation and treatment could occur as prescribed by law. As further defined by State law, the Medical Examiner will determine within two working days of being notified if the remains are subject to his or her authority. If the Medical Examiner recognizes the remains to be Native American, and not under his or her jurisdiction, then he or she shall contact the Native American Heritage Commission by telephone within 24 hours. The Native American Heritage Commission will make a determination as to the Most Likely Descendent, who shall be afforded 48 hours from the time access is granted to the discovery site to make recommendations regarding culturally appropriate treatment.

If suspected Native American remains are discovered, the remains shall be kept in situ (in place) until after the Medical Examiner makes its determination and notifications, and until after the Most Likely Descendent is identified, at which time the archaeological examination of the remains shall only occur on site in the presence of the Most Likely Descendent. The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony

(Section 7052). In the event that the Applicant/Owner and the Most Likely Descendant are in disagreement regarding the disposition of the remains, State law will apply, and the mediation process will occur with the NAHC. In the event that mediation is not successful, the landowner shall rebury the remains at a location free from future disturbance (see Public Resources Code Section 5097.98[e] and 5097.94[k]).

3.4.7 Conclusion

Implementation of the project would not impact any identified archaeological resources, historical resources, or any known human remains interred outside a formal cemetery. However, based upon the analysis presented in Section 3.4.4, the potential exists for impacts to unknown cultural resources resulting from implementation of the project. However, there is potential that buried cultural resources deposits or human remains may be encountered during excavation. To further ensure project development would not result in potential impacts to cultural resources or human remains, the project would implement MM-CR-1 through MM-CR-4 to ensure that potential impacts to archaeological resources and human remains would be less than significant. Specifically, implementation of MM-CR-1 through MM-CR-3 provide for the presence of archaeological and Native American monitors during ground disturbing activities that would be able to identify any previously unidentified cultural resources and to prevent inadvertent disturbance of any intact cultural deposits that may be present. Should any resources be identified, implementation of MM-CR-1 through MM-CR-3 would ensure proper handling and treatment of such resources by providing for a proper evaluation to determine whether additional archaeological work is necessary.

Potential impacts to human remains would be mitigated through implementation of MM-CR-4, which includes the requirement that any remains uncovered during ground disturbing activities shall not be further disturbed until the San Diego County Coroner has determined origins of the remains and final treatment has been agreed to with input of Native American Tribes as necessary. With incorporation of these mitigation measures, potential impacts to cultural resources associated with the project would remain **less than significant**.

3.5 ENERGY

This section describes the existing setting of the project site with respect to energy use and conservation, identifies associated regulatory requirements, and evaluates potential impacts related to implementation of the Hughes Circuits Project (project).

Appendix G and Appendix F of the California Environmental Quality Act (CEQA) Guidelines requires that an environmental impact report (EIR) discusses the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, to ensure that energy implications are considered in project-related decision-making processes. As such, this section analyzes the energy impacts of the project. Specifically, this section summarizes the existing conditions in the project area, discusses the regulatory framework, and discloses estimated energy use during the construction and operational phases of the project. This analysis considers the electricity, natural gas, and transportation fuel (petroleum) demand of the project.

Information in this section is based on the project's Air Quality and Greenhouse Gas Emissions Technical Report (October 2022), prepared by Dudek, which is included as Appendix B of this EIR.

Table 3.5-1 summarizes the project- and cumulative-level energy impacts, by threshold.

Table 3.5-1
Energy Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 – Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than Significant	Less than Significant	Less than Significant
#2 – Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than Significant	Less than Significant	Less than Significant

3.5.1 Existing Conditions

The environmental setting for the project related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed below. In summary, in 2020 (the latest calendar year for which data is uniformly available for all three types of energy sources), California's estimated annual energy use included the following:

- Approximately 250,175 gigawatt hours of electricity (EIA 2021a)
- Approximately 21 billion therms of natural gas (EIA 2021b)
- Approximately 22 billion gallons of petroleum (EIA 2022)

Electricity

According to the U.S. Energy Information Administration, California used approximately 250,175 gigawatt hours of electricity in 2020 (EIA 2021a). Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building.

San Diego Gas & Electric (SDG&E) provides electric services to 3.7 million customers through 1.49 million electric meters located in a 4,100-square-mile service area that includes San Diego County and southern Orange County (SDG&E 2022). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the project. SDG&E receives electric power from a variety of sources. According to the California Energy Commission (CEC) 2021 California Renewable Portfolio Standard Annual Report, 39% of SDG&E's power came from eligible renewable energy sources in 2020, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2021). According to the CEC, SDG&E customers consumed approximately 17,445 million kilowatt-hours (kWh) of electricity in 2020 (CEC 2022a).

Natural Gas

The California Public Utilities Commission (CPUC) regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from Pacific Gas & Electric, Southern California Gas (SoCalGas), SDG&E, Southwest Gas, and several smaller natural gas utilities. CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage (CPUC 2022). SDG&E provides natural gas service to the counties of San Diego and Orange and would provide natural gas to the project. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2022).

CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. Biogas (i.e., from wastewater treatment facilities or dairy farms) is just beginning to be delivered into the gas utility pipeline systems, and the State has been encouraging its development (CPUC 2022).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the Pacific Gas & Electric and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the backbone pipeline system typically is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. CPUC has regulatory jurisdiction over 100,000 miles of utility-owned natural gas pipelines (CPUC 2022).

According to the CEC, SDG&E customers consumed approximately 505 million therms of natural gas in 2020 (CEC 2022b).

Petroleum

According to the U.S. Energy Information Administration, California used approximately 524 million barrels of petroleum in 2020, with the majority (433 million barrels) used for the transportation sector (EIA 2022). This total annual consumption equates to a daily use of approximately 1.4 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 60 million gallons of petroleum per day, adding up to an annual consumption of 22 billion gallons of petroleum. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 3.5.2, Regulatory Setting. As such, the CEC anticipates an overall decrease of gasoline demand in the state over the next decade.

According to the California Air Resources Board's (CARB) Emission Factor (EMFAC) Web Database, San Diego County on-road transportation sources are projected to consume approximately 1.5 billion gallons of petroleum in 2025 (CARB 2022).

3.5.2 Regulatory Setting

Federal, state, and local agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, CPUC and CEC are two agencies with authority over different aspects of energy. Relevant federal, state, and local energy-related regulations are summarized below. This information helps to place the impact analysis within its proper regulatory context.

Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility and address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century was signed into law in 1998 and builds on the initiatives established in the ISTEA legislation, discussed above. The act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased fuel efficiency standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

This federal legislation requires ever-increasing levels of renewable fuels (the RFS) to replace petroleum (EPA 2017). The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant

reductions in greenhouse gas (GHG) emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as "RFS2" and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

State

The discussion below focuses primarily on those policies, regulations, and laws that directly pertain to energy-related resources. Refer to Section 3.7, Greenhouse Gas Emissions, of this EIR, which addresses various policies, regulations, and laws targeted to the reduction of GHG emissions that are expected to achieve co-benefits in the form of reduced demand for energy-related resources and enhanced efficiencies in the consumption of energy-related resources.

Warren-Alquist Act

The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based in part on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Senate Bills 1078, 107, X1-2, 350, 100, and 1020

Senate Bill (SB) 1078 (2002) established the California Renewables Portfolio Standard Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the Renewables Portfolio Standard by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

SB 107 (2006) accelerated the Renewables Portfolio Standard established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20% shall come from renewables; by December 31, 2016, 25% shall come from renewables; and by December 31, 2020, 33% shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and

zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources:

- 90% by December 31, 2035
- 95% by December 31, 2040
- 100% by December 31, 2045

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of greater Renewables Portfolio Standard requirements in future years. Therefore, any project's reliance on non-renewable energy sources would also be reduced.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the CARB and in consultation with the other state, federal, and local agencies. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32 and Senate Bill 32

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focused on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 3.7 of this EIR.

California Building Standards

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the CEC (and revised if necessary) (California Public Resources Code Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code Section 25402[d]) and cost effectiveness (California Public Resources Code Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The 2022 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The 2022 CALGreen standards, which are the current standards, became effective January 1, 2023. For nonresidential projects, some of the key mandatory CALGreen standards involve requirements related to bicycle parking, requirements for EV capable spaces and EV charging

stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Integrated Energy Policy Report

The CEC is responsible for preparing integrated energy policy reports, which identify emerging trends related to energy supply, demand, conservation, public health and safety, and maintenance of a healthy economy. The latest Integrated Energy Policy Report was released in February 2022 and addressed a variety of issues, including, but not limited to, implementation of SB 350, electricity resource/supply plans, electricity and natural gas demand forecast, natural gas outlook, transportation energy demand forecasts, doubling energy efficiency savings, integrated resource planning, climate adaptation and resiliency, renewable gas, distributed energy resources, strategic transmission investment plan, and existing power plant reliability issues (CEC 2021).

State Vehicle Standards

In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, AB 1493 was enacted in 2002. AB 1493 required CARB to set GHG emissions standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emissions standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction in approximately 22% of GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30% compared to the 2002 fleet.

In 2019, the EPA and National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1) (84 FR 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emissions vehicle (ZEV) mandates in California. In March 2020, Part Two was issued which set CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Advanced Clean Cars Program

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the low-emissions vehicle regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for ZEV that

contributes to both types of emission reductions (CARB 2021a). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program is currently in development to establish the next set of low-emissions vehicle and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021a). The main objectives of ACC II are as follows:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

The ACC II rulemaking package was adopted by CARB on August 25, 2022.

Executive Order N-79-20

Executive Order N-79-20 (2020) sets the goal for the State that 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035. Executive Order N-79-20 also sets goals for transition to 100% zero emission all medium- and heavy-duty vehicles by 2045, zero emission drayage trucks by 2035, and zero emission off-road vehicles and equipment by 2035, where feasible. Among other directives to further this executive order, for passenger cars and trucks, the Governor directed CARB to develop and propose regulations requiring increasing volumes of new zero-emission vehicles sold in the State towards the target of 100% of in-state sales by 2035. The Governor also directed the Governor's Office of Business and Economic Development to develop a Zero-Emissions Vehicle Market Development Strategy, which was completed in February 2021. The executive order also directs updates and assessments to ensure zero-emission vehicle infrastructure is in place to support the levels of electric vehicle adoption required by the order.

Advanced Clean Trucks Regulation

The Advanced Clean Trucks Regulation was also approved by CARB in 2020. The purpose of the Advanced Clean Trucks Regulation is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road

mobile sources (CARB 2021b). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

1. Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4-8 straight truck sales, and 40% of truck tractor sales.
2. Company and fleet reporting: Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code, Section 65080, SB 375 requires metropolitan planning organizations (San Diego Association of Governments) to include a sustainable communities strategy in its regional transportation plan. The main focus of the sustainable communities strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and vehicle-miles traveled (VMT), which influence the consumption of petroleum-based fuels.

Local

San Diego Association of Governments Regional Plan

The San Diego Association of Governments 2021 Regional Plan provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources (SANDAG 2021). The plan is the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies.

The 2021 Regional Plan includes a Sustainable Communities Strategy, as required by California SB 375 (Steinberg, 2008) (SB 375), for the San Diego region. This Sustainable Communities Strategy describes coordinated transportation and land use planning that exceeds the state's target for reducing per capita GHG emissions set by the California Air Resources Board. The state-mandated

target is a 19% reduction—compared with 2005—in per-capita GHG emissions from cars and light-duty trucks by 2035. The 2021 Regional Plan achieves a 20% reduction by then.

The 2021 Regional Plan also puts forth a forecasted development pattern that is driven by regional goals for sustainability, mobility, housing affordability, and economic prosperity.

City of San Marcos General Plan

The City of San Marcos (City) General Plan (City of San Marcos 2012) includes various policies related to reducing GHG emissions and the co-benefit of reducing energy consumption. The project's consistency with the City's General Plan is provided in Section 3.10, Land Use and Planning, of this EIR. Applicable policies include the following:

Land Use and Community Design Element

- **Policy LU-2.1:** Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
- **Policy LU-2.3:** Require the incorporation of green building practices, technologies, and strategies into development projects per code standards.
- **Policy LU-2.5:** Promote landscaping (e.g., native, drought tolerant plants) that minimizes demands on water supply.
- **Policy LU-3.1:** Require that new development and redevelopment incorporate connections and reduce barriers between neighborhoods, transit corridors, and activity centers within the City.

Conservation and Open Space Element

- **Policy COS-4.5:** Encourage energy conservation and the use of alternative energy sources within the community.
- **Policy COS-4.6:** Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.
- **Policy COS-4.8:** Encourage and support the generation, transmission and use of renewable energy.

City of San Marcos Climate Action Plan

The City adopted its Climate Action Plan (CAP) on December 8, 2020 (City of San Marcos 2020). The CAP acts as a roadmap to address challenges of climate change within the City. The CAP builds on the efforts and strategies identified in the City's 2013 CAP and establishes GHG emission reduction targets and identifies achievable, locally based actions to reduce GHG emissions from municipal and community activities. The CAP includes a baseline GHG emissions inventory for 2012, GHG emissions

forecasts for 2020 and 2030, local GHG emissions reduction strategies and measures to help the City achieve the 2030 target, climate adaptation measures for the City, and implementation and monitoring mechanisms to ensure the City's measures and targets are achieved. The CAP established GHG emissions reduction goals of 4% below 2012 levels by 2020 and 42% below 2012 levels by 2030 (City of San Marcos 2020). The City has included energy reducing measures into its Climate Action Plan Consistency Review Checklist to include electric vehicle charging stations, bicycle infrastructure, transportation demand management, reduced parking, electric or solar water heaters, photovoltaic systems, landscaping water use, and urban tree canopy.

3.5.3 Thresholds of Significance

The significance criteria used to evaluate the project's impact on energy are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). According to Appendix G, a significant impact would occur if development of the project would do any of the following:

- **Threshold #1:** Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- **Threshold #2:** Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.5.4 Project Impact Analysis

Threshold #1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Electricity

Construction Use

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by SDG&E. The amount of electricity used during project construction would be minimal because typical demand stems from the use of electronic equipment, in addition to electrically-powered hand tools.

As the electricity used for construction activities would be temporary and minimal, impacts related to electricity consumption during project construction are determined to be **less than significant**.

Operational Use

The operation of the project buildout would require electricity for multiple purposes, including cooling, lighting, appliances, and various equipment. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. Electricity consumption associated with project operation is based on the California Emissions Estimator Model (CalEEMod) outputs presented in Appendix B.

CalEEMod default values for energy consumption for each land use were applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the heating, ventilation, and air conditioning system; water heating system; and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

According to these estimations, the project would consume approximately 488,180 kWh per year during operation (Appendix B). The project would also implement applicable City's CAP Consistency Checklist measures that would reduce operational electricity consumption, including PDF-GHG-1 (install a minimum of 9,700 square feet of PV panels). Based on the project location, this area of PV panels would produce approximately 226,347 kWh of energy per year (NREL 2022). With incorporation of PDF-GHG-1, the project's electricity demand would be approximately 261,832 kWh per year. For context, SDG&E customers consumed approximately 17,445 million kWh of electricity in 2020 (CEC 2022a).

In summary, although electricity consumption would increase at the project site due to project implementation, the project would be required to comply with the Title 24 and the City's CAP Consistency Checklist by implementing energy-efficiency measures. The addition of solar PV also supports the City General Plan Policy COS-4.8. Furthermore, the project will be subject to the Title 24 building code that is adopted at the time building permits are obtained and thus may be subject to a more stringent energy standard than what was assumed herein, and the additional electricity demand for the project would not be unusual or wasteful as compared to overall local and regional demand for energy resources. For these reasons, electricity consumption of the project would not be considered inefficient, wasteful, or unnecessary, and impacts would be **less than significant.**

Natural Gas

Construction Use

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum." Any minor amounts of natural gas that may be consumed as a result of construction would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts are determined to be **less than significant**.

Operational Use

The operation would require natural gas for various purposes, including water heating and natural gas appliances. Natural gas consumption associated with operation is based on the CalEEMod outputs in Appendix B.

CalEEMod default values for energy consumption were applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. The 2019 Title 24 standards, became effective on January 1, 2020, were accounted for in the analysis. According to these estimations, the project would consume approximately 1,118,553 kilo-British Thermal Units (kBtu) per year, including operation of the forklift. For context, SDG&E customers consumed approximately 505 million therms, which equates to about 50.5 billion kBtu of natural gas in 2020 (CEC 2022b).

As previously discussed, the project would be subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to building permit application, the applicant would ensure that project plans would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process, and the additional natural gas demand for the project would not be unusual or wasteful as compared to other warehouses and the overall local and regional demand for energy resources. For these reasons, the natural gas consumption of the project would not be considered inefficient or wasteful, and impacts would be **less than significant.**

Petroleum

Construction Use

The primary energy consumed during construction would be associated with petroleum usage. Potential impacts were assessed for off-road equipment and on-road vehicle trips during construction, as provided by the CalEEMod outputs (see Appendix B). Fuel consumption from construction equipment and vehicle trips was estimated by converting the total CO_2 emissions anticipated to be generated by the construction of the project to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2021). Heavy-duty construction equipment associated with construction activities, vendor trucks, and haul trucks are assumed to use diesel fuel. Worker vehicles are assumed to be gasoline fueled. All details for construction criteria air pollutant emissions modeling discussed in Appendix B are also applicable for the estimation of construction-related energy consumption.

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles is shown in Table 3.5-2.

Table 3.5-2
Project Construction Petroleum Demand

Construction	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
	Gallons			
Total	24,111.43	6,245.39	4,292.25	4,167.28
Total Petroleum Consumed for Project Construction				**38,816.35**

Notes: See Appendix B for details.

As shown in Table 3.5-2, the project is estimated to consume approximately 38,316 gallons of petroleum during the construction phase. For context, in 2020, California consumed about 22 billion gallons of oil (EIA 2022). Notably, the project will be subject to the CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation: (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles, (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled, (3) restricts the adding of older vehicles into fleets starting on January 1, 2014, and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements.

Overall, while construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts are determined to be **less than significant**.

Operational Use

During operations, the majority of fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site. Petroleum fuel consumption associated with motor vehicles is a function of VMT as a result of project operation. The annual VMT attributable to the project is expected to be 1,519,046 VMT (Appendix B). Fuel estimates for the project are provided in Table 3.5-3.

Table 3.5-3
Mobile Source Fuel Consumption – Operation

Fuel	Vehicle MT CO_2	Kilograms CO_2 per Gallon	Gallons
Gasoline	425.25	8.78	48,433.57
Diesel	5.85	10.21	572.68
		Total	**49,006.25**

Sources: Appendix B (mobile source CO_2); The Climate Registry 2021 (kg CO_2/gallon).
CO_2 = carbon dioxide; MT = metric ton

As depicted in Table 3.5-3, the project would consume approximately 49,006 gallons of petroleum per year during operation. For context, San Diego County on-road transportation sources are projected to consume approximately 1.5 billion gallons of petroleum in 2025 (CARB 2022), which is the first full year of project operations.

Over the lifetime of the project, the fuel efficiency of the vehicles being used by the employees and trucks for the project is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency and EV use. For example, CARB has adopted the Advanced Clean Cars and Advanced Clean Trucks programs to accelerate the market for zero-emission vehicles in both the passenger car and medium/heavy-duty truck sectors. As such, operation of the project is expected to use decreasing amounts of petroleum over time, due to advances in fuel economy.

In summary, although the project would increase petroleum use during operation, the use would be a small fraction of the Countywide use and diminish over time due to efficiency increases. The additional fuel demand for the project would not be unusual or wasteful as compared to other warehouses and the overall local and regional demand for petroleum resources. Given these considerations, petroleum consumption associated with the project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be **less than significant**.

Renewable Energy Potential

As part of the project's design process, the project applicant considered how the project could potentially increase its reliance on renewable energy sources to meet the project's energy demand. Renewable energy sources that were considered for their potential to be used to power the project, consistent with the CEC's definition of eligible renewables, include biomass, geothermal, solar, wind, and small hydroelectric facilities.

Given the project's location in an urban area and the nature of the project (i.e., a light industrial/ warehouse project), there are considerable site constraints including limited land availability,

incompatibility with onsite and surrounding land uses for large scale power generation facilities, unknown interconnection feasibility, compatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for biomass, geothermal, and hydroelectric renewable energy to be installed on site.

Regarding wind power, due to the urban nature of the site and surrounding land uses, wind turbines are generally not feasible as it represents an incompatible use. Specifically, a general rule of thumb is to install a wind turbine on a tower with the bottom of the rotor blades at least 30 feet above anything within a 500-foot horizontal radius and to be sited upwind of buildings and trees (APA 2011; NREL 2015), which the project site cannot accommodate.

Regarding solar power, the project does include solar power, which at a minimum, will include 9,700 square-feet of PV panels. The addition of solar PV is consistent with the City's CAP and also supports the City's General Plan Policies, such as Policy COS-4.8. While the project does not propose battery storage at the time, the project does not preclude installation of battery storage in the future if determined to be a feasible and compatible land use of the site.

In summary, the project includes the onsite renewable energy source (i.e., solar) that was determined to be feasible for the site and does not include the onsite renewable energy sources that were determined to be infeasible.

Summary

As explained above, the project would use renewable energy onsite as determined to be feasible and would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project construction or operation. Impacts would be **less than significant**.

Threshold #2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR, Part 6). Part 6 of Title 24 establishes energy efficiency standards for residential and non-residential buildings constructed in California in order to reduce energy demand and consumption. The project would also be subject to Part 11 of Title 24, also known as the CalGreen building standards. These were adopted into the City's building design criteria. Furthermore, the project would be consistent with the City's CAP Consistency Checklist measures, such as through its implementation of EV charging stations and PV panels, which would further reduce operational energy use. The project would be built and operated in accordance with all existing, applicable regulations at the time of construction. For these reasons stated, the project would result in a **less than significant** impact associated with the potential to conflict with energy standards and regulations.

3.5.5 Cumulative Impact Analysis

Potential cumulative impacts on energy would result if the project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation. The cumulative projects within the areas serviced by the energy service providers would be applicable to this analysis; this includes existing aging structures that are energy inefficient. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact. Projects that would mostly include construction, such as transportation infrastructure, could also contribute to a cumulative impact; however, the impact of these projects would be limited because they would typically not involve substantial ongoing energy use.

As described previously in Section 3.5.4, Project Impact Analysis, the project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary use of energy. Like the project, cumulative projects would be subject to CALGreen, which provides energy efficiency standards for commercial and residential buildings. Over time, CALGreen would implement increasingly stringent energy efficiency standards that would require the project, and the cumulative projects, to minimize the wasteful and inefficient use of energy. In addition, cumulative projects would be required—at a minimum—to meet Title 24 building standards, further avoiding the inefficient use of energy. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

In summary, the project contains energy-efficiency design features consistent with the City's CAP, would comply with applicable regulatory standards for the enhancement of energy efficiency, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Thus, the project would not contribute to a cumulative impact to the wasteful or inefficient use of energy, and would not result in a cumulatively considerable contribution to a potential cumulative impact.

3.5.6 Mitigation Measures

Impacts would be less than significant, and no mitigation measures are required.

3.5.7 Conclusion

The project would comply with regulatory requirements and would implement applicable project design features in the City's CAP Consistency Checklist that would reduce operational energy consumption. For example, the project would be required to install EV charging stations, PV panels, reduce

landscaping water use, and plant trees. As such, the project would not result in the wasteful or inefficient use of energy, and impacts would be less than significant.

Additionally, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy consumption, including the City's General Plan policies and City's CAP Consistency Checklist. As a result, impacts would be less than significant.

3.6 GEOLOGY AND SOILS

This section describes the existing geological and paleontological settings of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, including seismic activity, liquefaction, landslides, loss of topsoil, soil erosion, soil stability and soil expansion, and identifies mitigation measures related to implementation of the project.

Preparation of this environmental impact report (EIR) section relied on information provided in the Preliminary Geotechnical Investigation prepared for the project by Geocon Inc. dated October 1, 2021. The Preliminary Geotechnical Investigation is included as Appendix E to this EIR.

The paleontological findings are based on the results of the geotechnical study, geological map and paleontological literature review, as well as a records search performed by the San Diego Natural History Museum.

A summary of the project- and cumulative-level geology and soils analysis, by threshold, is provided in Table 3.6-1, Geology and Soils Summary of Impacts.

Table 3.6-1
Geology and Soils Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 - Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.	Less than Significant	Less than Significant	Less than Significant
#2 – Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	Less than Significant	Less than Significant	Less than Significant
#3 – Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic-related ground failure, including liquefaction.	Less than Significant	Less than Significant	Less than Significant
#4 – Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.	No Impact	No Impact	No Impact
#5 – Result in substantial soil erosion or the loss of topsoil.	Less than Significant	Less than Significant	Less than Significant
#6 – Be located on a geologic unit or soil that is unstable, or that would become unstable as a	Less than Significant	Less than Significant	Less than Significant

Table 3.6-1
Geology and Soils Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.			
#7 – 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	Less than Significant	Less than Significant
#8 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	No Impact	No Impact
#9 Directly or indirectly destroy a unique paleontological resource or site unique geologic feature?	Potentially Significant	Potentially Significant	Less than Significant

3.6.1 Existing Conditions

The project site is located in the northeastern portion of the coastal plain within the southern portion of the Peninsular Ranges Geomorphic Province of southern California. The Peninsular Ranges is a geologic and geomorphic province that extends from the Imperial Valley to the Pacific Ocean and from the Transverse Ranges to the north and into Baja California to the south. The coastal plain of San Diego County is underlain by a thick sequence of relatively undisturbed and non-conformable sedimentary rocks that thicken to the west and range in age from Late Cretaceous through the Pleistocene with intermittent deposition. The sedimentary units are deposited on Jurassic and Cretaceous igneous and metavolcanic bedrock. Geomorphically, the coastal plain is characterized by a series of 21, stair-stepped marine terraces (younger to the west) that have been dissected by west flowing rivers. The coastal plain is a relatively stable block that is dissected by relatively few faults consisting of the potentially active La Nacion Fault Zone and the active Rose Canyon Fault Zone. The Peninsular Ranges Province is also dissected by the Elsinore Fault Zone that is associated with and sub-parallel to the San Andreas Fault Zone, which is the plate boundary between the Pacific and North American Plates. The site is composed of Tertiary-age sedimentary rocks consisting of the Santiago Formation. No faults are shown in the immediate project site vicinity (Appendix E).

Soils

A brief description of the earth materials encountered during subsurface exploration is presented in the following sections. Based on field observations and review of published geologic maps, the project site is locally underlain by undocumented fill, young alluvium, and Santiago Formation bedrock.

Undocumented Fill (Qudf)

Undocumented fill soils were observed to a depth of approximately 2 feet on site and mostly located in the southwestern portion of the site, along adjacent existing roadways and over the existing sewer line that traverses the site (Appendix E). These soils are not considered suitable for support of structural site improvements but may be re-used as engineered fill if properly processed and placed.

Alluvium (Qal and Qya)

Alluvium was encountered in all of the exploratory trenches to depths ranging between 3.5 and 10 feet. The upper portion of the alluvium is considered unsuitable for the support of foundations or structural fill and would require remedial grading. The alluvium is considered acceptable for reuse as fill; however, some soil is saturated and would require mixing with drier material or require drying of the soil to obtain a proper moisture content during fill placement and compaction (Appendix E).

The young alluvial flood plain deposits (mapped as Qya) are Holocene (less than 11,700 years ago) (Cohen et al. 2022) and late Pleistocene (approximately 11,700 years ago to 129,000 years ago) (Cohen et al. 2022) in age according to published mapping by Kennedy et al. (2007). Younger, Holocene age alluvial flood plain deposits at the surface have a low paleontological sensitivity, while high paleontological sensitivity deposits of Pleistocene age may be encountered at depth.

Santiago Formation (Tsa)

The Santiago Formation is present below the undocumented fill and alluvium across the site. The Santiago Formation was encountered between 3.5 and 10 feet below existing grade and is considered suitable for the support of proposed fill and structural loads. The presence of siltstone and claystone layers within this geologic unit would require slope stabilization methods within proposed cut slopes including buttresses and slope stabilization fills (Appendix E).

The Santiago Formation, formerly the Tejon Formation (English and Prutzman 1926), was first described and named by Woodring and Popenoe (1945) based on the type section located in the Santa Ana Mountains of Orange County. The formation consists of sparsely fossiliferous marine siltstones and sandstones; however, the upper Santiago Formation is likely non-marine due to the presence of petrified wood (Schoellhamer et al. 1981). As discussed in Mihlbachler and Deméré (2009, 2010), the Santiago Formation was divided into three distinct units: basal, middle, and upper. The basal unit (Informal Member A) consists of coarse-grained arkosic sandstone that is generally not bedded; the middle unit (Informal Member B) consists of interbedded fine- to medium-grained arkosic sandstones, siltstones, and mudstones; and the upper unit (Member C) consists of coarse-grained arkosic sandstone and grit (Kennedy and Tan 2007; Mihlbachler and Deméré 2009, 2010).

The Santiago Formation, especially members B and C, has a high paleontological sensitivity (County of San Diego 2009; SDNHM 2023; Tomiya 2013; Zack et al. 2022; Tomiya 2011; López-Torres et al. 2018; Colbert 2006; Mihlbachler and Deméré 2009; Theodor 1999; Haug et al. 2013). The geotechnical report findings (Appendix E) of the sedimentary layers within the Santiago Formation as siltstone, claystone, and sandstone within the test trenches indicate a potential for these members being present within the project area, at depth, and are therefore assigned high paleontological sensitivity.

Surface Water and Groundwater

Surface Water

Surface water was not observed during the project site visit. If encountered during earthwork construction, surface water on this site is likely the result of precipitation.

Groundwater

Groundwater was encountered during the field investigation in the trench location at the project site at a depth between 4 and 10 feet below existing grade. The use of dewatering techniques may be necessary if excavations below the groundwater elevation occur. It is not uncommon for groundwater or seepage conditions to develop where none previously existed. Groundwater and seepage is dependent on seasonal precipitation, irrigation, land use, among other factors, and varies as a result (Appendix E).

Earthquake Hazards

Surface Fault Rupture

The geologic structure of the entire southern California area is dominated mainly by northwest trending faults associated with the San Andreas Fault system. The project site is in a seismically active region. The potential for ground rupture is considered to be very low due to the absence of active faults at the project site (Appendix E). No faults transecting the project site were identified on the readily available geologic maps. The nearest known active fault is the Newport Inglewood–Rose Canyon Fault located about 10 miles southwest of the project site.

Liquefaction/Seismic Settlement

Liquefaction describes a phenomenon in which cyclic stresses, produced by earthquake-induced ground motion, create excess pore pressures in relatively cohesionless soils. These soils may thereby acquire a high degree of mobility, which can lead to lateral movement, sliding, consolidation and settlement of loose sediments, sand boils and other damaging deformations. This phenomenon occurs only below the water table, but, after liquefaction has developed, the effects can propagate upward into overlying non-saturated soil as excess pore water dissipates.

The factors known to influence liquefaction potential include soil type and grain size, relative density, groundwater level, confining pressures, and both intensity and duration of ground shaking. In general, materials that are susceptible to liquefaction are loose, saturated granular soils having low fines content under low confining pressures.

Although groundwater is present near existing grade, liquefaction potential for the site is considered very low due to the very dense nature of the underlying Santiago Formation and the removal of the alluvium and undocumented fill (Appendix E).

Other Seismic Hazards

Due to the relatively flat nature of the project site, the potential for landslides and rockfall is considered negligible. The project site is located in a zone with "zero susceptibility" to landslides (City of San Marcos 2012).

In addition, the potential for secondary seismic hazards such as seiche and tsunami is remote due to site elevation and distance from an open body of water.

Paleontological Resources

The preliminary geotechnical investigation prepared for the project did not identify any unique geologic features on the project site. The geotechnical investigation (Appendix E) along with geologic mapping of the area (Kennedy et al. 2007) did show the highly paleontological sensitive Santiago Formation was present, and furthermore the geotechnical evaluation reported the presence of sandstone, siltstone, and claystone layers within the project site encountered between 3 to 10 feet. These suggest the presence of members B and/or C of the Santiago Formation, which have a high paleontological sensitivity.

Dudek requested a paleontological records search from the San Diego Museum of Natural History on January 26, 2023, and received the results on February 6, 2023. The museum reported that no previous localities were reported from within the project site and six localities from within the 1-mile buffer. These localities (6878, 6879, 6880, 6881, 6882, 6883) were all from Member B of the Santiago Formation in San Marcos, California. They consisted of 140 individual specimens of snails (Gastropoda), pelecypods (Mollusca), plant material, bryozoans, burrows (Ichnofossils), and a fish tooth (Osteichthyes) (SDNHM 2023). Terrestrial vertebrate fossils and invertebrate fossil assemblages have also been recovered elsewhere in San Diego County (Deméré and Walsh 1993; SDNHM 2023).

3.6.2 Regulatory Setting

This section describes the federal, state and local regulations related to geology and soils.

Federal

Federal Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 provides a set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and implementation. The Act also encourages states to complete a Natural Mitigation Plan. California's relevant and updated State Hazard Mitigation Plan was adopted and approved by the Federal Emergency Management Agency Region IX in 2007. In accordance with this Act, the County of San Diego (County) prepared its Multi-Jurisdictional Hazard Mitigation Plan, which is discussed in more detail below.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (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.

U.S. Geological Survey Landslide Hazard Identification Program

The U.S. Geological Survey, in fulfillment of the requirements of Public Law 106-113, created the National Landslide Hazards Program to reduce long-term losses from landslide hazards by improving understanding of the causes of ground failure and suggesting mitigation strategies. The Federal Emergency Management Agency is the responsible agency for the long-term management of natural hazards.

International Building Code

The International Building Code (IBC) is a model building code developed by the International Code Council that provides the basis for the California Building Code (CBC). The purpose of the IBC is to provide minimum standards for building construction to ensure public safety, health, and welfare. Prior to the creation of the IBC, several different building codes were used; however, by 2000, the IBC had replaced these previous codes. The IBC is updated every 3 years.

Paleontological Resources Protection Act

The Paleontological Resources Protection Act (PRPA) of 2009 directs the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using "scientific principles and expertise." The PRPA incorporates most of the recommendations of the Secretary of the

Interior's report titled Assessment of Fossil Management on Federal and Indian Lands (DOI 2000) to formulate a consistent paleontological resources management framework. In passing the PRPA, congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. The PRPA codifies existing policies of the U.S. Bureau of Land Management, National Park Service, U.S. Forest Service, Bureau of Reclamation, and the U.S. Fish and Wildlife Service, and provides the following:

- Criminal and civil penalties for illegal sale and transport and theft and vandalism of fossils from federal lands
- Minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants)
- Definitions for "paleontological resources" and "casual collecting"
- Requirements for curation of federal fossils in approved repositories

The PRPA requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land. The PRPA furthers the protection of fossils on federal lands by criminalizing the unauthorized removal of fossils.

Federal Land Policy Management Act

The Federal Land Policy Management Act of 1976 (PL 94-579; 90 Statute 2743, USC 1701–1782) requires that public lands be managed such that the quality of their scientific values is protected. The act recognizes significant paleontological resources as scientific resources and requires federal agencies to manage public lands in a manner that protects scientific resource quality.

National Environmental Policy Act

The National Environmental Policy Act of 1969 (PL 91-190; 31 Statute 852, 42 USC 4321–4327) requires that important natural aspects of national heritage be considered in determining the environmental consequences of proposed projects.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act mitigates the hazard of surface fault rupture by regulating structures designated for human occupancy near active faults. As required by the Act, the California Geological Survey has delineated Earthquake Fault Zones along known active faults in California.

California Geologic Survey

The California Geologic Survey provides guidance with regard to seismic hazards. The California Geologic Survey's Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California (2008), provides guidance for the evaluation and mitigation of earthquake-related hazards for projects located within certain designated zones.

California Surface Mining and Reclamation Act

Enacted to promote conservation and protection of significant mineral deposits, the California Surface Mining and Reclamation Act requires cities address the significant aggregate resources classified by the State Geologist and designated by the State Mining and Geology Board in their General Plans. The Act ensures that significant aggregate resources are recognized and considered before land use decisions are made that may compromise the availability of these resources.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was enacted in 1997 to protect the public from strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. The SHMA requires the State Geologist to map areas subject to seismic hazard. Before a development permit may be granted for projects located in designated areas, a geotechnical evaluation of the site must be prepared, and appropriate mitigation measures incorporated into the project design. Additionally, the SHMA requires a Standardized Natural Hazards Disclosure Statement form be completed by real estate sellers if a property is within one of the designated natural hazards areas.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act (effective June 1, 1998), requires "sellers of real property and their agents provide prospective buyers with a 'Natural Hazard Disclosure Statement' when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone." The SHMA, discussed above, specifies two ways this disclosure can be made:

- The Local Option Real Estate Transfer Disclosure Statement as provided in Section 1102.6a of the Civil Code; or
- The Natural Hazard Disclosure Statement as provided in Section 1103.2 of the Civil Code.

The Local Option Real Estate Disclosure Statement can be substituted for the Natural Hazards Disclosure Statement if it contains substantially the same information and substantially the same warning as the Natural Hazards Disclosure Statement. Both the Alquist-Priolo Act and the SHMA require that real estate agents, or sellers of real estate acting without an agent, disclose to prospective

buyers that the property is located in an Alquist-Priolo Earthquake Fault Zone or Seismic Hazard Mapping Zone.

California Uniform Building Code

The California Building Standards Code is codified in Title 24 of the California Code of Regulations. Part 2 of the California Uniform Building Code specifies standards for geologic and seismic hazards, other than surface faulting. Chapter 23 of the California Uniform Building Code addresses seismic safety and includes regulations for earthquake-resistant design and construction. The 2019 Triennial Edition of the California Building Standards Code went into effect January 1, 2020 (California Building Standards Commission 2020).

California Environmental Quality Act of 1970

Paleontological resources are afforded consideration under the California Environmental Quality Act (CEQA). Appendix G of the State of California CEQA Guidelines (14 CCR 15000 et seq.) includes the following as one of the questions to be answered in the Environmental Checklist (Appendix G, Section VII, Part f): "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" California Public Resources Code Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, California Penal Code Section 622.5 sets the penalties for damage to or removal of paleontological resources. California state laws and regulations under California Public Resources Code Section 5097.5 apply to paleontological resources.

PRC 5097–5097.6 – Archaeological, Paleontological and Historical Sites

PRC Sections 5097–5097.6 outlines the requirements for cultural resource analysis prior to the commencement of any construction project on State Lands. This section identifies that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. It prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. This section was amended in 1987 to require consultation with the California Native American Heritage Commission whenever Native American graves are found. Violations for the taking or possessing remains or artifacts are felonies.

Local

County of San Diego Multi-Jurisdictional Hazard Mitigation Plan

To comply with the Disaster Mitigation Act of 2000, the County of San Diego prepared the Multi-Jurisdictional Hazard Mitigation Plan in 2004, revised in 2017. The Plan serves as both a

county-wide plan and a plan for local jurisdictions that identifies risks posed by natural and human-made disasters before a hazard event occurs. The Plan includes overall goals and objectives shared by many jurisdictions, as well as specific goals, objectives, and mitigation action items for each of the participating jurisdictions, including the City of San Marcos, developed to help minimize the effects of the specified hazards that potentially affect their jurisdiction (County of San Diego 2017).

County of San Diego Code of Regulatory Ordinances Sections 87.101–87.804, Grading, Clearing, and Watercourses Ordinance

Section 87.430 of the County's Grading and Clearing Ordinance provides for the requirement of a paleontological monitor at the discretion of the County. In addition, the suspension of grading operation is required upon the discovery of fossils greater than 12 inches in any dimension. The ordinance also requires notification of the County Official (e.g., Permit Compliance Coordinator). The ordinance gives the County Official the authority to determine the appropriate resource recovery operations, which shall be carried out prior to the County Official's authorization to resume normal grading operations.

San Marcos Grading Ordinance

The City's Grading Ordinance (found in Chapter 17.32 of the City's Municipal Code) contains regulations for the purpose of protecting public health and safety with respect to the design and construction of building sites and the development of property by grading. The ordinance sets forth rules and regulations to control excavation, grading and earthwork construction, engineering analysis of soil conditions, and the administrative procedure for issuance of grading permits, approval of grading plans, and site inspections.

City of San Marcos General Plan

Safety Element

The Safety Element of the San Marcos General Plan contains several policies pertaining to natural geologic hazards. The following goal and policies apply to the project (City of San Marcos 2012):

- **Goal S-1:** Reduce risks to the community from earthquakes by regulating new development and redevelopment to prevent the creation of new geologic and seismic hazards.
    - **Policy S-1.1:** Reduce the risk of impacts from geologic and seismic hazards by applying current and proper land use planning, development engineering, building construction, and retrofitting requirements.

- **Policy S-1.2:** Investigate specific groundwater levels and geologic conditions underlying all new development or redevelopment proposals in areas where potential fault rupture, liquefaction, or other geologic hazards are suspected.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use. As detailed in Section 3.10, the project is consistent with the applicable General Plan goals and policies pertaining to geology and soils.

Conservation and Open Space Element

- **Goal COS-2**: The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.
    - **Policy COS-2.5**: Continue to review future development proposals to ensure that cultural resources (including prehistoric, historic, paleontological, and Senate Bill 18 Tribal resources) are analyzed and conserved in compliance with CEQA requirements.
- **Goal COS-11**: Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

3.6.3 Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts to geological resources are considered significant if the project would:

- **Threshold #1:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of as known fault. Refer to Division of Mines and Geology Special Publication 42.
- **Threshold #2:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.
- **Threshold #3:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.
- **Threshold #4:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.
- **Threshold #5:** Result in substantial soil erosion or the loss of topsoil.

- **Threshold #6:** 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.
- **Threshold #7:** 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.
- **Threshold #8:** 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.
- **Threshold #9:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.6.4 Project Impact Analysis

Impacts to geology and soils that may result from ground disturbing activities associated with the project are analyzed below.

Threshold #1: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of as known fault. (Refer to Division of Mines and Geology Special Publication 42)?

As identified in Section 3.6.1, Existing Conditions, the project site is located in tectonically active southern California. However, no Alquist-Priolo Fault Hazard Zones or other known active faults run through the project site. The closest known active fault is the Newport-Inglewood/Rose Canyon Fault, located approximately 10 miles southwest of the project site. Based on the lack of active or potentially active faults underlying the project area, the potential for surface rupture is low and the project site would not be subject to a greater seismic risk than other locations within the region. Additionally, per the Alquist-Priolo Earthquake Fault Zoning Act, because the project site is not located in an Alquist Priolo Fault Zone, the project would not place any prohibited uses (e.g., uses containing structures with a capacity of 300 people or more; uses with the potential to severely damage the environment or cause major loss of life; or specific civic uses including police and fire stations, schools, hospitals, rest homes, nursing homes, and emergency communication facilities) within an Alquist–Priolo Fault Zone. Thus, the potential for loss, injury, or death involving rupture of a known earthquake fault is considered low.

The project would be required to comply with applicable CBC requirements and proposed plans would be subject to City review. For these reasons, impacts are determined to be **less than significant.**

Threshold #2: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

There are no known active faults that run through the project site. The project would be designed in accordance with applicable CBC criteria, including those specific to resistance to seismic shaking. Furthermore, the project would be constructed in accordance with other applicable regulations, current seismic design specifications of the Structural Engineers Association of California, and applicable requirements of the State of California Occupational Safety and Health Administration. These required seismic design considerations are used to minimize structural damage in the event of ground shaking.

Additionally, the project would implement all recommendations outlined in Section 7 of the Preliminary Geotechnical Investigation (Appendix E), as well as any project-specific recommendations with any potential supplemental geotechnical evaluations in compliance with Section 17.32.040(d) of the City's Municipal Code. Section 17.32.040(d) of the Municipal Code requires the incorporation of recommendations of geotechnical reports into grading plans prior to the approval of a grading permit. These recommendations include general provisions for compliance with the City's grading ordinances as well as recommendations related to property clearing and preparation, remedial grading, engineered fill, excavation, shrinkage and bulking, trench excavation and backfill. The Preliminary Geotechnical Investigation includes design and construction recommendations, and post-construction considerations. The detailed recommendations are included in Chapter 7 of the Preliminary Geotechnical Investigation (see Appendix E). The Development Services Department shall review and approve project design and inspect construction to verify that the geotechnical recommendations have been incorporated. With adherence to all regulations and geotechnical recommendations from the Preliminary Geotechnical Investigation conducted for the project, impacts related to seismic ground shaking would be considered **less than significant**.

Threshold #3: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction typically occurs when a site is subjected to strong seismic shaking, on-site soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than approximately 70%. Based on the preliminary geotechnical evaluation mapping, subsurface exploration, and laboratory testing, the project site is not identified as being susceptible to liquefaction (Appendix E). Although groundwater is present near existing grade, liquefaction potential for the site is considered very low due to the very dense nature of the underlying Santiago Formation and the removal of the alluvium and undocumented fill. The potential for liquefaction or dynamic settlement to occur on site is considered very low. Additionally, the project site is identified in the City's Safety Element as having "Zero Susceptibility" to liquefaction (Figure 6-1 of the City's General Plan) (City of

San Marcos 2012). As such, the project site is not considered susceptible to liquefaction or significant amounts of seismic settlement.

Furthermore, the project would implement all remedial grading and drainage recommendations contained within the Preliminary Geotechnical Investigation (see Appendix E of this EIR), in addition to recommendations outlined in any development project-specific supplemental geotechnical report(s) in accordance with Municipal Code requirements. For these reasons, implementation of the project would not result in seismic-related ground failure, including liquefaction and impacts would be **less than significant.**

Threshold #4: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is relatively flat, with elevations varying from approximately 524 to 532 feet above mean sea level. The project site is identified in the City's Safety Element as having "Zero Susceptibility" to landslides (Figure 6-1 of the General Plan) (City of San Marcos 2012). Therefore, the project site is not considered susceptible to landslides and project **no impacts** would occur.

Threshold #5: Would the project result in substantial soil erosion or the loss of topsoil?

The project would be required to comply with the City's Grading Ordinance, which contains design standards and performance requirements that must be met to avoid or reduce, to an acceptable level, excessive erosion. Furthermore, in accordance with Municipal Code requirements, the project would implement all recommendations pertaining to soil erosion or loss of topsoil as contained within the Preliminary Geotechnical Investigation (Appendix E), in additional to any additional recommendations from any supplemental geotechnical reports prepared for the project. For these reasons, implementation of the project would not result in substantial soil erosion or the loss of topsoil, and impacts would be **less than significant.**

Threshold #6: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

As previously described under Threshold #3 and #4, the potential for landslides and/or liquefaction on site is considered low. The project would be required to comply with the recommendations of the preliminary geotechnical investigation (Appendix E), which require that where not already removed by the proposed site grading, any topsoil or any undocumented fill encountered should be completely removed and recompacted within the limits of grading, receive additional fill as needed, and implement any other settlement-sensitive improvements as needed. Site preparation, removals, and excavation associated with the project would be performed consistent with Chapter 7 of the Preliminary Geotechnical Investigation (Appendix E) and any supplemental geotechnical evaluation. In

addition, grading associated with the project would be accomplished under the observation and testing of the project geotechnical engineer and engineering geologist, in accordance with the requirements of the CBC, the City of San Marcos, and the County of San Diego. Areas to receive fill would be required to be properly cut and/or benched in accordance with current industry standards of practice, CBC guidelines, and the City of San Marcos requirements.

Therefore, compliance with applicable regulations and the recommendations in the Preliminary Geotechnical Investigation would ensure that the potential for unstable conditions that could result in on- or off-site lateral spread, subsidence, liquefaction or collapse would be **less than significant**.

Threshold #7: Would the project 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?

As described in the Preliminary Geotechnical Investigation (Appendix E), the project site contains soils with a low to medium expansion index, specifically the undocumented fill soils. These soils are proposed to be removed, and the imported fill will be tested prior to its arrival at the site to determine its suitability as fill material. The project would be required to implement CBC guidelines, regulations, and further recommendations to ensure that such soils are fully remediated and/or the project is designed appropriately to minimize impacts of expansive soils. The preliminary geotechnical evaluation also includes recommendations that expansive or clayey soils are not used for backfill materials. With adherence to the Preliminary Geotechnical Investigation recommendations as required for grading permit issuance, impacts related to expansive soils would be **less than significant**.

Threshold #8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The project does not include septic tanks or alternative wastewater disposal systems. As described in Section 3.17, Utilities and Service Systems, the project would construct private on-site sewer lines that would connect to existing sewer district infrastructure. Therefore, **no impacts** would occur.

Threshold #9: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As discussed in Section 3.6.1, the potential for paleontological resources to be located within the project site is considered high. Ground-disturbing activities associated with the project have the potential to unearth previously unidentified paleontological resources. The preliminary geotechnical evaluation prepared for the project did not identify any unique geologic features on the project site. However, paleontological resources may be adversely impacted during excavation **(Impact GEO-1)**, and therefore impacts are determined to be potentially **significant without mitigation**.

3.6.5 Cumulative Impact Analysis

Due to the localized nature of geology and soils, cumulative projects would address potential impacts to geology and soils on a project-by-project basis, as potential geologic hazards and soil composition vary by site. Each cumulative project would be required to assess individual and site-specific geologic conditions, which would inform construction and development of each site. All cumulative development would be subject to similar requirements to those imposed and implemented for the project and would be required to adhere to applicable regulations, standards, and procedures.

Further, as discussed in Section 3.6.4, Project Impact Analysis, the project site has high potential to yield paleontological resources. Thus, impacts to paleontological resources from implementation of the project would be significant with no mitigation. While some of the projects on the cumulative list are located in areas that may contain paleontological resources, the presence of these resources is typically unknown prior to construction, and it is expected that mitigation measures would be included with approval of cumulative projects to ensure that impacts to paleontological resources are minimized.

All cumulative projects would be required to analyze site-specific conditions and implement recommendations or mitigation. Nevertheless, because the project would result in potentially significant impacts to paleontological resources prior to mitigation, cumulative impacts related to geology and soils is determined to be **potentially significant**.

3.6.6 Mitigation Measures

Based on the analysis presented in Sections 3.6.4 and 3.6.5, most project- and cumulative-level geology- and soil-related impacts would be less than significant; however, impacts to paleontological resources would be potentially significant. Therefore, monitoring would be required for all disturbance within the middle-Eocene Santiago Formation (Tsa) and in areas of young alluvial flood plain deposits (Qya) where underlying Pleistocene age deposits or Santiago Formation may be encountered at depth. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. With implementation of Mitigation Measure (MM-)GEO-1, outlined below, potential impacts related to paleontological resources would be reduced to less than significant.

MM-GEO-1 Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project. The PRIMP shall be consistent with the guidelines of the SVP (2010) and include the following elements: project description, preconstruction worker environmental awareness training, frequency of monitoring, salvage protocols, reporting, and collections management. The qualified paleontologist or a qualified monitor meeting the SVP (2010) guidelines shall be on site during all rough grading and other significant ground-disturbing activities below a

depth of 5 feet below the existing ground surface in previously undisturbed, Pleistocene-age deposits and all disturbance within the middle Eocene age Santiago Formation. If excavations below 5 feet are not impacting previously undisturbed deposits, as determined by the qualified paleontologist, spot-check monitoring shall ensue. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt and/or divert grading activity to allow recovery of the paleontological resources. The area of discovery shall be roped off with a 50-foot-radius buffer to document and collect the fossils. Once documentation and collection of the find is completed, the monitor shall remove the rope and allow grading to recommence in the area of the find. No monitoring is required during excavations that the paleontologist determines are within artificial fill or younger alluvium (e.g., Holocene age Quaternary alluvium, younger than approximately 11,700 years).

3.6.7 Conclusion

Based on the analysis presented in Section 3.6.4, Project Impact Analysis, and Section 3.6.5, Cumulative Impact Analysis, impacts associated with seismicity, liquefaction, landslides, erosion/loss of topsoil, compressible soils, and expansive soils were determined to be less than significant. Impacts to paleontological resources would be potentially significant; however, with the implementation of MM-GEO-1 listed in Section 3.6.6, Mitigation Measures, the impacts would be reduced to that of **less than significant**. Implementation of applicable recommendations of the Preliminary Geotechnical Report (Appendix E) and any supplemental report, would further ensure no significant impacts related to geology and soils would occur as a result of project construction. Furthermore, the project would be required to comply with all applicable regulations outlined in Section 3.6.2, Regulatory Setting.

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3.7 GREENHOUSE GAS EMISSIONS

This section describes the existing setting of the project site related to greenhouse gas (GHG) emissions and climate change, identifies associated regulatory requirements, and evaluates potential impacts related to implementation of the Hughes Circuits Project (project). Information for this section relies on the Air Quality and Greenhouse Gas Emissions Technical Report prepared for the project by Dudek in January 2023. The Air Quality and Greenhouse Gas Emissions Technical Report is included as Appendix B to this environmental impact report.

A summary of the project- and cumulative-level GHG analysis, by threshold, is provided in Table 3.7-1.

Table 3.7-1
Greenhouse Gas Emissions Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#1 - Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than Significant	Less than Significant	Less than Significant
#2 - Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHGs.	Less than Significant	Less than Significant	Less than Significant

3.7.1 Existing Conditions

This section introduces the environmental setting as it relates to GHG emissions, providing a climate change overview; information on GHG and climate forcing substances, global warming potential, and sources of GHG emissions; and describing potential effects of climate change in the region of the project.

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (i.e., decades or longer). The earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in the earth's energy balance, including variations in the sun's energy reaching the earth, changes in the reflectivity of the earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by the earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the sun is absorbed by the earth, the earth emits a portion of

this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the earth. The greenhouse effect is a natural process that contributes to regulating the earth's temperature and creates a pleasant, livable environment on the earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the earth's surface temperature to rise.

The scientific record of the earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further below under Potential Effects of Climate Change in Section 3.7.1, Existing Conditions.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code, Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also California Environmental Quality Act [CEQA] Guidelines, Section 15364.5). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[1]

[1] The descriptions of greenhouse gases are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), the Glossary of Terms Used in GHG Inventories (CARB 2015), and the Glossary of Climate Change Terms (EPA 2016).

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (e.g., rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric ozone (O_3).

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board (CARB) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth (EPA 2017). The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of carbon dioxide equivalent (CO_2e).The current version of California Emissions Estimator Model (CalEEMod) (Version 2020.4.0) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

Sources of Greenhouse Gas Emissions

Anthropogenic GHG emissions worldwide in 2019 (the most recent year for which data is available) totaled approximately 52,400 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2020). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 62% of the total global emissions, or approximately 32,500 MMT CO_2e (PBL 2020).

Per the U.S. Environmental Protection Agency (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2019 (EPA 2021), total United States GHG emissions were approximately 6,558.3 MMT CO_2e in 2019 (EPA 2021). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 80.1% of total GHG emissions (5,255.8 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.4% of CO_2 emissions in 2019 (4,856.7 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2019 were 1.8% higher; however, the gross emissions were down from a high of 15.6% above 1990 levels in 2007. GHG emissions decreased from 2018 to 2019 by 1.7% (113.1 MMT CO_2e) and overall, net emissions in 2019 were 13% below 2005 levels (EPA 2021).

According to California's 2000–2019 GHG emissions inventory (2021 edition), California emitted approximately 418 MMT CO_2e in 2019, including emissions resulting from out-of-state electrical generation (CARB 2021a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 3.7-2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2019.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.5 MT per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO_2e lower than 2018 emissions (CARB 2021a).

Table 3.7-2
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total
Transportation	166.1	39.7
Industrial	88.2	21.1
Electric power	58.8	14.1
Commercial and residential	43.8	10.5
Agriculture	31.8	7.6
High global-warming potential substances	20.6	4.9
Recycling and waste	8.9	2.1
Totals	**418.2**	**100**

Source: CARB 2021a.
Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO_2e = million metric tons of carbon dioxide equivalent. Emissions reflect 2019 California GHG inventory.
Totals may not sum due to rounding.

The City of San Marcos (City) has established a goal to reduce its community-wide GHG to reduce GHG emissions 40% below 1990 levels by 2030 (City of San Marcos 2020). The City's community-wide GHG emissions inventory for baseline year 2012 is presented in Table 3.7-3 for informational purposes.

Table 3.7-3
City of San Marcos (Year 2012) Communitywide Greenhouse Gas Emissions Inventory

Community Sector	Total MT CO_2e per year	CO_2e (percent)
On-Road Transportation	322,000	54
Electricity	162,000	27
Natural Gas	75,000	12
Solid Waste	15,000	3
Off-Road Transportation	14,000	2
Water	9,000	1
Wastewater	3,000	<1
Total	**599,000**	**100**

Source: City of San Marcos 2020.
Note: GHG = greenhouse gas; MT CO_2e = metric tons of carbon dioxide equivalent.
Totals may not sum due to rounding.

Potential Effects of Climate Change

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed, including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. Potential effects of climate change are outlined in detail in Appendix B to this environmental impact report.

3.7.2 Regulatory Setting

The following section provides a summary of the applicable regulatory requirements pertaining to GHGs, including federal, state, and local guidelines; additional detail can be found in Appendix B.

Federal

Massachusetts v. EPA

In *Massachusetts v. Environmental Protection Agency (EPA)* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The administrator further found that the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act (42 USC Section 7401).

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and, in 2010, EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200). On January 12, 2017,

EPA finalized its decision to maintain the current GHG emissions standards for model years 2022 through 2025 cars and light trucks.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards then in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2% to 3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives.

In 2019, EPA and NHTSA published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1), which revoked California's authority to set its own GHG emissions standards and set zero-emissions vehicle (ZEV) mandates in California. In March 2020, Part Two was issued, which set CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026.

In response to EO 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, January 2021), on December 21, 2021, NHTSA finalized the CAFE Preemption rulemaking to withdraw its portions of the Part One Rule. The final rule concluded that the Part One Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. Then, in March 2022, NHTSA established new fuel economy standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model

year 2026. Also in March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's March 2022 action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, Assembly Bills, Senate Bills, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

Assembly Bill (AB) 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of

2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

Senate Bill (SB) 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

EO B-55-18. EO B-55-18 (September 2018) establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This EO directs CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

AB 1279. The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

AB 1757. AB 1757 (September 2022) requires the California Natural Resources Agency (CNRA) to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024 and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2e).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan: The Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan). The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission-reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012 (CARB 2014). The First Update concluded that California was on track to meet the 2020 target, but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In December 2017, CARB released the 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB 2017a). The Second Update builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the Second Update recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%. The Second Update was approved by CARB's Governing Board on December 14, 2017.

The Proposed Final 2022 Scoping Plan for Achieving Carbon Neutrality (Third Update) was issued on November 16, 2022 (CARB 2022). The Third Update lays out a path not just to carbon neutrality by 2045 but also to the 2030 GHG emissions reduction target. The modeling indicates that, if the plan described

in the Proposed Scenario is fully implemented, and done so on schedule, the state would cut GHG emissions by 85% below 1990 levels, result in a 71% reduction in smog-forming air pollution, reduce fossil fuel consumption by 94%, create 4 million new jobs, among other benefits (CARB 2022). The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen[2] (CARB 2022).

The Third Update also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and CO_2 removal from ambient air, through mechanical (e.g., direct air capture with sequestration) or nature-based (e.g., management of natural and working lands) applications.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs; it also establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it would meet the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and would not impede attainment of those goals.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (40 CFR, Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that

[2] Green hydrogen refers to hydrogen that is generated by renewable energy or from low-carbon power, and has significantly lower associated carbon emissions than grey hydrogen, which is produced using natural gas and makes up the majority of hydrogen production. For the purposes of the Draft 2022 Scoping Plan, the term "green hydrogen" is not limited to only electrolytic hydrogen produced from renewables.

emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party verified.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases (CARB 2017b).

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code [PRC] Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The 2022 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle (EV) charging options whenever they choose to adopt those technologies
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available on site and complement the state's progress toward a 100% clean electricity grid
- Strengthening ventilation standards to improve indoor air quality

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR Part 11) is commonly referred to as California's Green Building Standards (CALGreen), and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2022 standards, which are the current standards, became effective January 1, 2023. For nonresidential projects, some of the key mandatory CALGreen standards involve requirements related to bicycle parking, requirements for EV capable space and EV charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Title 20. CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and EO S-21-09).

SB 1368. SB 1368 (September 2006), required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 and SBX1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the California Public Utilities Commission and CEC to ensure that the regulation builds upon the Renewable Portfolio Standard program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this

regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the Renewables Portfolio Standard by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

SB 350. SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the Renewable Portfolio Standard by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020. SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035, 95% by December 31, 2040, and 100% by December 31, 2045.

Mobile Sources

State Vehicle Standards (AB 1493 and EO B-16-12). AB 1493 (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, California Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the "Federal Vehicle Standards" description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California's authority to set its own GHG emissions standards and set ZEV mandates in California. However, in March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate and found that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy Duty Diesel. CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce particulate matter and NO_x emissions from heavy-duty diesel vehicles. The rule requires particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise an SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

A SCS does not (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it (California Government Code Section 65080[b][2][K]). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets adopted for the San Diego Association of Governments (SANDAG) in 2010 are a 7% reduction in per-capita passenger-vehicle GHG emissions by 2020 and a 13% reduction by 2035, measured relative to 2005 GHG emissions. In 2018, CARB adopted the second round of SB 375 reduction targets, and increased SANDAG's 2020 target to a 15% reduction in per-capita passenger-vehicle GHG emissions, and the 2035 target to a 19% reduction using the same 2005 baseline.

SANDAG completed and adopted its 2050 RTP/SCS in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others (*Cleveland National Forest Foundation v. San Diego Association of Governments* [2017] 3 Cal. 5th 497). regarding analysis of EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels. The Supreme Court of California held that the Environmental Impact Report at issue was sufficient to inform the public, based on the information available at the time, about the regional plan's GHG impacts and its potential inconsistency with state climate change goals without including an explicit analysis of the consistency of projected 2050 GHG emissions with the goals in the executive order.

In 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan (Regional Plan) (SANDAG 2015). Like the 2050 RTP/SCS, San Diego Forward: Regional Plan meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. The Regional Plan was updated in 2021, which was the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies (SANDAG 2021).

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the low-emission vehicle regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for ZEVs that contributes to both types of emission reductions (CARB 2021b). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program is currently in development to establish the next set of low-emission vehicle and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021b). The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

The ACC II rulemaking package was adopted by CARB on August 25, 2022.

EO N-79-20. EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state towards the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated

in the state towards the target of 100% of the fleet transitioning to zero-emission vehicles by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, EPA and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations in the state by 2035. EO N-79-20 called for the development of a Zero-Emissions Vehicle Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions, and investment strategies, to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation. The Advanced Clean Trucks Regulation was also approved by CARB in 2020. The purpose of the Advanced Clean Trucks Regulation is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2021c). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

1. Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b-3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales.
2. Company and fleet reporting: Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Solid Waste

AB 939, AB 341, AB 1826, and SB 1383. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Section 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not

less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that it believes would assist the state in reaching the 75% goal by 2020.

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (2016) requires a 50% reduction in organic waste disposal from 2014 levels by 2020, and a 75% reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20% of edible food that is currently disposed be recovered for human consumption by 2025.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The SWRCB and Department of Water Resources will develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes;

washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO N-10-21. In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Other State Regulations and Goals

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on

"qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update*,* which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

Local

San Diego County Air Pollution Control District

The San Diego County Air Pollution Control District does not have established GHG rules, regulations, or policies.

City of San Marcos

City of San Marcos Climate Action Plan

The City adopted its Climate Action Plan (CAP) on December 8, 2020 (City of San Marcos 2020). The CAP acts as a roadmap to address challenges of climate change within the City. The CAP builds on the efforts and strategies identified in the City's 2013 CAP and establishes GHG emission reduction targets and identifies achievable, locally based actions to reduce GHG emissions from municipal and community activities. The CAP includes a baseline GHG emissions inventory for 2012, GHG emissions forecasts for 2020 and 2030, local GHG emissions reduction strategies and measures to help the City achieve the 2030 target, climate adaptation measures for the City, and implementation and monitoring mechanisms to ensure the City's measures and targets are achieved. The CAP established GHG emissions reduction goals of 4% below 2012 levels by 2020 and 42% below 2012 levels by 2030

(City of San Marcos 2020). The CAP was prepared in accordance with the requirements within CEQA Guidelines Section 15183.5, and the CAP Consistency Checklist was used to evaluate the project's significance with respect to GHG emissions.

City of San Marcos General Plan

The City's General Plan (City of San Marcos 2012) includes various policies related to reducing Air Quality and GHG emissions. Applicable policies include the following:

Land Use and Community Design Element

- **Policy LU-2.1**: Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
- **Policy LU-2.3**: Promote landscaping (e.g., native, drought tolerant plants) that minimizes demands on water supply.
- **Policy LU-2.7**: Promote the instillation of trees to reduce the urban heat-island effect and green infrastructure to reduce storm water runoff.
- **Policy LU-3.1**: Require that new development and redevelopment incorporate connections and reduce barriers between neighborhoods, transit corridors, and activity centers within the City.

Mobility Element

- **Policy M-2.1**: Work with new development to design roadways that minimize traffic volumes and/or speed, as appropriate within residential neighborhoods; while maintaining the City's desire to provide connectivity on the roadway network.

Conservation and Open Space Element

- **Policy COS-4.5**: Encourage energy conservation and the use of alternative energy sources within the community.
- **Policy COS-4.6**: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.
- **Policy COS-4.8:** Encourage and support the generation, transmission and use of renewable energy.
- **Policy COS-4.9:** Encourage use and retrofitting of existing buildings under Title 24 of the California Building Energy Code.

As detailed in response to Threshold #2 below, the project would be consistent with the applicable goals and policies pertaining to greenhouse gasses.

3.7.3 Thresholds of Significance

California has developed guidelines to address the significance of GHG emissions impacts that are contained in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Appendix G provides that a project would have a significant environmental impact if it would:

- **Threshold #1:** Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- **Threshold #2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a).

The City adopted the Final CAP on December 8, 2020. The CAP relies on a screening threshold and a CAP Consistency Checklist to determine whether a project's emissions would be consistent with GHG emissions estimated within the City's CAP. Projects that are consistent with the City's CAP, as determined through the CAP Consistency Checklist, would result in a less-than-significant cumulative impact regarding GHG emissions. If a project is not consistent with the City's CAP, as determined through the CAP Consistency Checklist, potentially significant cumulative GHG impacts would occur.

Approach and Methodology

Construction

CalEEMod Version 2020.4.0 was used to estimate potential project-generated GHG emissions during construction. Construction of the project would result in GHG emissions primarily associated with use

of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Please see Appendix B for a detailed discussion of construction emissions calculation methodology and assumptions.

Operation

Emissions from the operational phase of the project were estimated using CalEEMod Version 2020.4.0 for mobile sources (vehicular traffic), energy sources (natural gas and electricity), area sources (landscaping equipment), solid waste, water supply and wastewater treatment, and off-road equipment (one CNG forklift). Please see Appendix B for detailed operational scenario assumptions for these sources. Operational year 2025 was assumed as the first full year after completion of project construction.

Project Design Features

Project Design Features (PDFs) that are relevant to the GHG analysis are presented below. This impact analysis assumes that all PDFs would be implemented as conditions of approval, as defined below.

PDF-GHG-1 The project applicant will install a minimum of 9,700 square-feet of photovoltaic panels.

3.7.4 Project Impact Analysis

This section evaluates the GHG emissions impacts associated with the project. The significance criteria described in Section 3.7.3, Thresholds of Significance, were used to evaluate impacts associated with the construction and operation of the project.

Threshold #1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold #2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Construction of the project would result in GHG emissions, which are primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, and worker vehicles. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario. On-site sources of GHG emissions include off-road equipment and off-site sources including trucks and worker vehicles. CalEEMod was also used to estimate potential operational GHG emissions from area sources (landscaping equipment), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment for the project. In addition, GHGs generated by a CNG forklift was estimated for the project. These emissions were quantified to determine the increase in GHGs from the project and are included below for disclosure and to provide a full understanding of the project's potential contribution to climate change. However, as discussed in Section 3.7.3, the

significance thresholds are based on whether the project is consistent with the City's CAP, which is also detailed below.

Construction and Operational GHG Emissions

Table 3.7-4 presents construction emissions for the project in 2023 and 2024 from on-site and off-site emission sources.

Table 3.7-4
Estimated Annual Construction Greenhouse Gas Emissions - Unmitigated

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2023	180.99	0.02	0.01	185.35
2024	209.36	0.03	<0.01	211.56
Total	**390.36**	**0.05**	**0.02**	**396.91**
Amortized Construction Emissions Over 30-years				*13.23*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
See Appendix B for complete results. Totals may not add due to rounding.

As shown in Table 3.7-4, the estimated total GHG emissions during construction of would be approximately 397 MT CO_2e over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 13 MT CO_2e per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Amortized construction emissions were added to operational emissions of the project for this assessment.

Table 3.7-5 presents the increase in GHG emissions from the project.

Table 3.7-5
Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	<0.01	<0.01	0.00	<0.01
Energy	38.21	<0.01	<0.01	38.38
Mobile	431.09	0.01	0.01	434.64
Off-Road	45.59	0.01	0.00	45.96
Solid waste	6.89	0.41	0.00	17.07
Water supply and wastewater	44.63	0.41	0.01	61.76
Total	**559.52**	**0.84**	**0.02**	**597.81**
Amortized Construction Emissions Over 30-Years				*13.23*

Table 3.7-5
Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Project Operations + Amortized Construction Total				611.04

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
See Appendix B for complete results. Totals may not add due to rounding.
The values shown are the annual emissions reflected in the CalEEMod "mitigated" output in order to account for implementation of PDF-GHG-1 (photovoltaic panels) and consistency with regulations, specifically AB 939 (50% waste diversion) and CALGreen (low-flow fixtures requirement).

As shown in Table 3.7-5, the estimated GHG emissions from operation of the project would be approximately 611 MT CO_2e per year, including amortized construction emissions.

City of San Marcos' Climate Action Plan Consistency

This section evaluates the project's impacts to GHG in accordance with the City's 2020 CAP Consistency Checklist. A completed CAP Checklist is included as Appendix B. New discretionary development projects subject to CEQA review that are below the applicable screening size listed in the CAP Checklist would emit less than 500 MT CO_2e annually and would not contribute considerably to cumulative climate change impacts, and therefore, would be considered consistent with the CAP and associated emissions projections.

For projects that are subject to CAP consistency review, the next step in determining consistency is to assess the project's consistency with the growth projections used in development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1

Question 1

Step 1 of the CAP Checklist determines land use consistency. Question 1 of Step 1 asks if a project would exceed a certain size. If the project is below the specified size, it is deemed consistent with the City's CAP by emitting fewer than 500 MT CO_2e per year and would be less than significant. The project exceeds the screening size of 58,000 square feet for General Light Industrial identified in the CAP Consistency Checklist and therefore would answer "Yes" to this question and must proceed to Question 2 of Step 1.

Question 2

Question 2 of Step 1 asks if the project is consistent with the existing General Plan land use designation. The project site is designated as Light Industrial (LI) in the City's General Plan and is zoned

Light Industrial (L-I). The project would be consistent with these designations. The project would answer "Yes" to Question 2 of Step 1 and can proceed to Step 2 of the Checklist.

Step 2

The second step of CAP consistency review is to evaluate a project's consistency with the applicable strategies and measures of the CAP. Each checklist item is associated with a specific GHG reduction measure in the City's CAP. "N/A" should only be checked based on the direction provided in each checklist item question. All projects for which the measure is applicable must demonstrate that the project would implement measures consistent with the checklist item, or fully substantiate how the item would be infeasible for project implementation. "N/A" responses are subject to Planning Division review and approval. If "No" is provided as a response to a question, the project would be determined to be inconsistent with the CAP and would result in a significant GHG impact.

Checklist Item 1. Electric Vehicle Charging Stations (Measure T-2)

This checklist item applies to multi-family residential and non-residential projects. It asks if the project will install electric vehicle charging stations (Level 2 or better) in at least 5% of the total parking spaces provided on site.

The project would answer "Yes" to this question. By project design, there are four EV Level 2 charging stations and three additional EV ready spaces proposed in compliance with the 2022 CALGreen code at 10% of the total 72 space parking on site.

Checklist Item 2. Bicycle Infrastructure (Measure T-8)

This checklist item applies to residential and non-residential projects. It asks if the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements of the following:

- Intersection or roadway segment improvements are proposed as part of the project.
- The City's General Plan Mobility Element identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be improved as part of the project.

The project would answer "N/A" to this checklist question. According to the General Plan, Pacific Street is not a Mobility Element roadway, nor does it call for bike infrastructure in this roadway segment.

Checklist Item 3. Transportation Demand Management (Measure T-9)

This checklist item applies to residential and non-residential projects. Will the project develop and implement a Transportation Demand Management (TDM) Plan that includes, at a minimum, all of the TDM strategies listed below?

- Provide discounted monthly transit pass or provide at least 25% transit fare subsidy to residents/employees.
- Provide designated car-share, carpool, vanpool, and/or park-and-ride parking spaces.
- Provide pedestrian connections between all internal uses and to all existing or planned external streets around the project site(s).
- Provide secure bicycle parking spaces or bicycle racks, showers, and clothes lockers.
- Encourage telecommuting for employees (allow one telecommute day per week or compressed work weeks) or provide a telecommute work center with common office space and equipment available to residents.

-or

- Would the project implement and monitor for 4 years a TDM program that demonstrates an alternative transportation (i.e. carpool, public transit, bicycle, walk, telecommute) mode share of at least 29% for all residents?

The project would answer "Yes" to this checklist question. The project would comply with all feasible and appropriate TDM strategies as indicated in Appendix B; however, as a light industrial facility on a 2-shift/5-day per week schedule, employees are not able to work remotely. Additionally, transit routes are limited in relation to the workforce, especially with late night shiftwork, but transit passes will be offered as part of the TDM program. Based on the preceding considerations, this measure would not apply in its entirety to the project.

Checklist Item 4. Reduce Parking Near Transit (Measure T-12)

This checklist item applies to multi-family residential projects. If located within one-half mile of a major transit stop, would the project provide at least 27% fewer parking spaces than required for the same use based on the City's municipal code parking requirements?

The project would answer "N/A" this checklist item. As an industrial facility, this measure would not apply to the project.

Checklist Item 5. Water Heaters (Measure E-1)

This checklist item applies to residential projects and asks if the project would install one of, or a combination of, the following water heater types in place of natural gas water heaters:

- Electric heat pump water heater
- Instantaneous electric water heater
- Electric tank
- Solar water heater with heat pump water heater backup
- Solar water heater with electric tank backup

The project would answer "N/A" this checklist item. As an industrial facility, this measure would not apply to the project.

Checklist Item 6. Photovoltaic Installation (Measure E-2)

This checklist item applies to non-residential projects and asks if the project would install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area?

The project would answer "Yes" to this checklist item. The project will install a photovoltaic system to meet the City's requirement.

Checklist Item 7. Landscaping Water Use (Measure W-1)

This checklist item applies to residential and non-residential projects and asks if the project would comply with the City's Water Efficient Landscape Ordinance.

The project would answer "Yes" to this checklist item. As identified in the landscape plans, the project design will comply with the City's Water Efficient Landscape Ordinance.

Checklist Item 8. Urban Tree Canopy (Measure C-2)

This checklist item applies to residential and non-residential projects and asks if the project is providing more than 10 parking spaces, will the project plant at least one tree per five parking spaces provided?

The project would answer "Yes" to this checklist item. As identified in the landscape plans, the project would design meets the requirement of at least one tree per five parking spaces and would provide a total of 59 trees across the site.

Summary

The project was shown to implement all applicable checklist items within the City's CAP. Therefore, the project would be consistent with the City's CAP, and impacts to GHG emissions would be less than significant.

Consistency with Other Plans and Regulations

Numerous plans, policies, and regulations have been adopted for the purpose of reducing GHG emissions. The principal overall state plan and policy are AB 32, SB 32, and AB 1279. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40% below 1990 levels by 2030. AB 1279 requires GHG emissions be reduced to 85% below 1990 levels by 2045 and that the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter. The City's CAP outlines the measures for the City to achieve its share of state GHG reductions. As discussed above, the project would be consistent with the CAP and, therefore, would be consistent with state GHG reduction goals.

At the regional level, the SANDAG's RTP/SCS has been adopted for the purpose of reducing GHG emissions attributable to passenger vehicles in the San Diego region. In October 2015, SANDAG adopted its Regional Plan, which was subsequently updated in 2021. The RTP/SCS is not directly applicable to the project because the underlying purpose of the RTP/SCS is to provide direction and guidance on future regional growth (i.e., the location of new residential and nonresidential land uses) and transportation patterns throughout the City and greater San Diego County, as stipulated under SB 375. CARB has recognized that the approved RTP/SCS is consistent with SB 375. The SANDAG Regional Plan is generally consistent with the local government plans. As described in Section 3.12, Population and Housing, the City of San Marcos is forecasted to grow from 94,258 persons and 41,096 employees in 2016 to 119,098 persons and 63,031 employees in 2050, which is a population and employment increase of 24,840 and 21,935, respectively (SANDAG 2021). As such, the project-related increase of approximately 60 employees would represent a nominal percentage of the City's projected future population and employees. Since the project is within the scope of development that was anticipated in the General Plan, it would not result in growth that would conflict with the Regional Plan.

Based on the preceding considerations, the project would not conflict with an applicable plan adopted for the purpose of reducing GHG emissions, or generate GHG emissions that would have a significant impact on the environment; therefore, the project's impacts on GHG emissions would be **less than significant**.

3.7.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental effects. Pursuant to CEQA Guidelines Section 15130(b)(1)(A)(B), an adequate discussion of a project's significant cumulative impact, in combination with other closely related projects, can be based on either: (1) a list of past, present, and

probable future producing related impacts; or (2) a summary of projections contained in an adopted local, regional, or statewide plan, or a related planning document that describes conditions contributing to the cumulative effect.

Due to the global nature of the assessment of GHG emissions and the effects of global climate change, GHG emissions analysis, by its nature, is a cumulative impact analysis. Therefore, the information and analysis provided above in Section 3.7.4, Project Impact Analysis, to determine project-level impacts applies here and the project's contribution to global climate change would not be cumulatively considerable.

This approach is consistent with the supporting documentation published by the CNRA when promulgating the SB 97-related CEQA amendments, which indicated that the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). The Resources Agency similarly advised that an environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b). The adopted CEQA Guideline (14 CCR 15064.4) confirms that the analysis of climate change impacts is cumulative and, in the most recent update to the Guidelines, text was added to Section 15064.4 to clarify as much (CNRA 2018). Section 15064.4 now states: "In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change."

3.7.6 Mitigation Measures

The project would not result in significant impacts; therefore, no mitigation is required.

3.7.7 Conclusion

As presented in Section 3.7.4 above, the project would be consistent with the City's 2020 CAP. Furthermore, the project would be consistent with and would not conflict with the applicable GHG-reducing strategies of the state, would be consistent with CARB's Scoping Plan, and would be consistent with SANDAG's RTP/SCS. In summary, impacts with regard to GHG emissions would be less than significant, and no mitigation is required.

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3.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing hazards and hazardous materials within the vicinity of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project.

Table 3.8-1, Hazards and Hazardous Materials Summary of Impacts, summarizes the hazards and hazardous materials and cumulative-level impact analysis, by threshold, for the project.

Table 3.8-1
Hazards and Hazardous Materials Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than Significant	Less than Significant	Less than Significant
#2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less than Significant	Less than Significant	Less than Significant
#3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste, within one-quarter mile of an existing or proposed school.	Less than Significant	Less than Significant	Less than Significant
#4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	Less than Significant	Less than Significant	Less than Significant
#5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.	Less than Significant	Less than Significant	Less than Significant
#6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than Significant	Less than Significant	Less than Significant
#7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	Less than Significant	Less than Significant	Less than Significant

3.8.1 Existing Conditions

This section describes the existing conditions on the project site related to hazards and hazardous materials. The project site is undeveloped and predominantly contains grasses and vegetation.

Modern debris (e.g., refuse) is strewn throughout the project site and a homeless encampment was observed in the bushes on the northwestern portion of the project site.

Hazardous materials include solids, liquids, or gaseous materials that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, could pose a threat to human health or the environment. Hazards with all existing development or construction of development include the risks associated with potential explosions, fires, or release of hazardous substances in the event of an accident or natural disaster, which may cause or contribute to an increase in mortality or serious illness or pose substantial harm to human health or the environment.

The 10.46-acre project site is an undeveloped lot located in the western portion of San Marcos in an urbanized area. The project site is located in an area largely characterized by retail/commercial and industrial facilities, with Bradley Park located across from the site's western border. The project site is bounded by numerous industrial facilities to the north, South Pacific Street and Bradley Park to the west, undeveloped land and a Chevron gas station to the east, and South Pacific Street and the current Hughes Circuit buildings to the south.

3.8.2 Regulatory Setting

This section details the federal, state, and local regulations governing hazards and hazardous materials.

Federal

Chemical Accident Prevention Provision

Title 40 Part 68 of the Code of Federal Regulations sets forth a list of regulated substances and thresholds, the petition process for adding or deleting substances to the list of regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accident releases, and the state accidental release prevention programs approved under Section 112(r) of the Clean Air Act.

Federal Aviation Regulations, Notice of Proposed Construction or Alteration

The Federal Aviation Administration (FAA), which has primary responsibility for the safety of civil aviation, imposes height restrictions in order to prevent obstructions to navigable airspace to protect flights and surrounding structures. In certain cases, the FAA should be notified of proposed development pursuant to Section 77.11 of Federal Aviation Regulations. The notification of proposed development enables the FAA to do the following:

- Evaluate the effect of the construction or alteration on operational procedures and proposed operational procedures
- Determine the possible hazardous effect of the proposed construction or alteration of air navigation

- Provide recommendations for identifying the construction or alteration in accordance with current FAA Advisory Circular AC 70/7460-1K dated August 1, 2000, Obstruction Marking and Lighting
- Determine other appropriate measures to be applied for continued safety of air navigation
- Provide charting and other notification to airmen of the construction or alteration

Certain jurisdictions can request an FAA evaluation of proposed development when certain features appear to be potentially hazardous.

Federal Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements for state and local jurisdictions to coordinate disaster mitigation planning and implementation. States are encouraged to complete a "Standard" or an "Enhanced" Natural Mitigation Plan. "Enhanced" plans demonstrate increased coordination of mitigation activities at the state level, and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program. California's updated State Hazard Mitigation Plan was adopted in October 2010 and approved by the Federal Emergency Management Agency Region IX. The City of San Marcos is one of the communities covered by the County of San Diego Multi-Jurisdictional Hazard Mitigation Plan, described below, which is a countywide plan that identifies risks posed by natural and human-made disasters.

Hazardous Materials Transport

The U.S. Department of Transportation regulates transportation of hazardous materials between states. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are California Highway Patrol and the California Department of Transportation. Together, these agencies determine container types used and license hazardous waste haulers for transportation of hazardous waste on public roads, including explosives that may be used for blasting.

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) gives the United States Environmental Protection Agency (EPA) the authority to control hazardous waste during the generation, transportation, treatment, storage, and disposal of the waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Hazardous and Solid Waste Amendments of 1984

The Hazardous and Solid Waste Amendments of 1984 Amends the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act of 1976) to authorize appropriations for fiscal year 1985 through 1988 for (1) general administration by the Administrator of the EPA to carry out such Act (including funds for Resource Recovery and Conservation Panels, hazardous waste management, and support for state, regional, local, and interstate agency solid waste plans); (2) grants to state hazardous waste programs; (3) the hazardous waste site inventory; (4) development and implementation of plans by state, local, regional, and interstate authorities; (5) implementation of state, local, and intermunicipal programs for solid waste management, resource recovery, resource conservation, and hazardous waste management; (6) special communities assistance; (7) assistance to states for recycled oil programs; (8) the Secretary of Commerce to carry out resource and recovery duties; (9) additional EPA officers or employees to conduct criminal investigations under such Act and for support costs for such additional criminal investigators; (10) underground storage tank regulation; (11) grants to states for state underground storage tank release detection, prevention, and correction programs; (12) small quantity generator waste education programs; (13) state and other programs requiring compliance with open dumping/sanitary landfill criteria by solid waste management facilities within 36 months after enactment of this Act; and (14) the National Ground Water Commission. In general, both the scope and requirements of the Amendments, as amended by RCRA, were significantly expanded and reinforced.

State

The state regulations that govern hazardous materials are equal to or more stringent than federal regulations. California has been granted primary oversight responsibility by EPA to administer and enforce hazardous waste management programs. State regulations have detailed planning and management requirements to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes are discussed below. In addition, the Department of Toxic Substance Control, the State Water Resources Control Board, and the Integrated Waste Management Act also regulate the generation of hazardous materials, also described below.

California Emergency Services Act

The California Emergency Services Act provides the basic authority for conducting emergency operations following a proclamation of emergency by the governor and/or appropriate local authorities. Local government and district emergency plans are considered to be extensions of the California Emergency Plan, established in accordance with the Emergency Services Act.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of Title 24 of the California Code of Regulations. The Code is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years. The San Marcos Fire Department (SMFD) has adopted the CFC by reference in its own Fire Code.

California Health and Safety Code, Hazardous Materials Release Response Plans and Inventory

Pursuant to California Health and Safety Code, Chapter 6.95, the California Department of Environmental Health implements the Hazardous Materials Business Plan program and the California Accidental Release Program in San Diego County. The Hazardous Materials Business Plan and California Accidental Release Program programs provide threshold quantities for regulated hazardous substances. When the indicated quantities are exceeded, a Hazardous Materials Business Plan or Risk Management Plan is required pursuant to the regulation. Congress requires EPA Region 9 to make risk management plan information available to the public through the EPA's Envirofacts Data Warehouse.

California Integrated Waste Management Act

This act requires the development and implementation of household hazardous waste disposal plans. The Department of Resources Recycling and Recovery (CalRecycle), formerly the California Integrated Waste Management Board, oversees compliance with this act and enforces operational plans for solid waste facilities.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which

coordinates the responses of other agencies, including the California EPA, California Highway Patrol, the California Department of Fish and Wildlife, and the Regional Water Quality Control Board.

Emergency Services Act

Under the Emergency Services Act (California Government Code Section 8850 et seq.), the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Quick response to incidents involving hazardous materials or hazardous waste is a key element of this plan. The Governor's Office of Emergency Services administers the plan, coordinating the responses of other agencies, including EPA, California Highway Patrol, Regional Water Quality Control Boards, air quality management districts, and county disaster response offices.

Government Code Section 65962.5 (Cortese List)

The provisions of Government Code Section 65962.5 are commonly referred to as the Cortese List. The Cortese List is a planning document used by the state and local agencies to provide information about hazardous materials release sites. Government Code Section 65962.5 requires the California EPA to develop an updated Cortese List annually, at minimum. The Department of Toxic Substance Control is responsible for a portion of the information contained in the Cortese List. Other California state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Hazardous Waste Control Act

The Hazardous Waste Control Act is implemented by regulations contained in California Code of Regulations Title 26 that describe requirements for the proper management of hazardous wastes. The act created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The Hazardous Waste Control Act and Title 26 regulations list more than 800 potentially hazardous materials and establish criteria for identifying, packaging, transporting, and disposing of such wastes. Under these regulations, the generator of hazardous waste material must complete a manifest that accompanies the material from the point of generation to transportation to the ultimate disposal location, with copies of the manifest filed with the Department of Toxic Substance Control.

Unified Program

The California EPA delegates to qualifying local agencies oversight and permitting responsibility for certain state programs pertaining to hazardous waste and hazardous materials. This is achieved through the Unified Program, created by state legislation in 1993 to consolidate, coordinate, and make

consistent the administrative requirements, permits, inspections, and enforcement activities for the following emergency and management programs:

- Hazardous materials release response plans and inventories (business plans)
- California Accidental Release Prevention Program (CalARP)
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure plans
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous material management plans and hazardous material inventory statements

The County of San Diego (County) is the designated certified unified program agency for all local jurisdictions within the San Diego region, including San Marcos.

State Responsibility Area Fire Safe Regulations (California Code of Regulations, Title 14 Natural Resources, Department of Forestry Fire Protection)

These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in state responsibility areas. Title 14 regulates that the future design and construction of structures, subdivisions, and developments in state responsibility areas shall provide for basic emergency access and perimeter wildfire protection measures.

Local

Airport Land Use Commission and Airport Land Use Compatibility Plans

Airport Land Use Commissions assist local agencies in ensuring compatible land uses in the vicinity of existing or proposed airports; coordinate planning at state, regional, and local levels; prepare and adopt airport land use policies; review plans or regulations submitted by local agencies; and review and make recommendations regarding the land use, building heights, and other issues related to air navigation safety. The San Diego County Regional Airport Authority is the Airport Land Use Commission for the San Diego region.

The closest airport to the project site is the McClellan-Palomar Airport, which operates under its own Airport Land Use Compatibility Plan. The project site is located within the McClellan-Palomar Airport Influence Review Area 2 (San Diego County Regional Airport Authority 2011). The influence area is

regulated by the Airport Land Use Commission, which regulates land uses in the area to be compatible with airport-related noise, safety, airspace protection, and over-flight factors through review of development proposals within the airport influence area. Review Area 2 consists of limits on heights of structures in areas of high terrain. Residential development in Review Area 2 may be subject to annoyances commonly associated with proximity to airports, such as noise, vibration, and overflights.

County of San Diego Multi-Jurisdictional Hazard Mitigation Plan

To comply with the Disaster Mitigation Act of 2000, the County of San Diego prepared the Multi-Jurisdictional Hazard Mitigation Plan. The plan serves as both a county-wide plan and a plan for local jurisdictions that identifies risks posed by natural and human-made disasters before a hazard event occurs. The plan includes overall goals and objectives shared by many jurisdictions, as well as specific goals, objectives, and mitigation action items for each of the participating jurisdictions to help minimize the effects of the specified hazards that could potentially affect their jurisdiction. Goals, objectives, and action items for the City of San Marcos (City) are included in this plan (County of San Diego 2017).

San Marcos Fire Department Hazard Risk Analysis and Wildland Urban Interface Community Wildfire Protection Plan

The Community Wildfire Protection Plan, adopted in December 2007 (San Marcos Fire Department 2007), was developed by the SMFD with guidance from the County of San Diego, California Department of Forestry and Fire Protection and the United States Forest Service. The Community Wildfire Protection Plan supplements San Diego County, Department of Planning and Land use documents. The SMFD also published the Hazard Risk Analysis for internal City use, incorporating new and existing information relating to wildfire risk within the City to better quantify true risk and management needs. The Hazard Risk Analysis quantifies, clarifies, and manages the wildland urban interface responsibility and meets the requirements of the federal Healthy Forests Restoration Act of 2003 for community fire planning.

City of San Marcos, Ordinance 2003-1216

The City Ordinance 2003-1216 amends Chapter 17.64 of the Municipal Code to adopt the most recent version of the California Fire Code. This ordinance also requires all buildings or structures to provide and maintain an effective fuel modification zone of 150 feet.

City of San Marcos General Plan

Safety Element

The Safety Element of the San Marcos General Plan contains the following goals and policies pertaining to hazards and hazardous materials that apply to the project:

- **Goals S-3:** Minimize injury, loss of life, and damage to property resulting from structure or wildland fire hazards.
    - **Policy S-3.1:** Require development to be located, designed and constructed to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers.
    - **Policy S-3.2:** Provide sufficient level of fire protection service to reduce risk from urban and wildland fire. Advocate and support regional coordination among fire protection and emergency service providers.
    - **Policy S-3.3:** Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.
    - **Policy S-3.4:** Coordinate with fire protection and emergency service providers to assess fire hazards before and after wildfire events to adjust fire prevention and suppression needs, as necessary, commensurate with both short- and long-term fire prevention needs.
- **Goal S-4:** Protect life, structures, and the environment from the harmful effects of hazardous materials and waste.
    - **Policy S-4.1:** Promote and support the proper disposal, handling, transport, delivery, treatment, recovery, recycling, and storage of hazardous materials in accordance with applicable federal, State, and local regulations.
    - **Policy S-4.2:** Require areas of known or suspected contamination to be assessed prior to reuse or redevelopment. Plan for reuse of contaminated areas in a manner that is compatible with the nature of the contamination and subsequent remediation efforts.
    - **Policy S-4.3:** Require areas of known or suspected contamination to be assessed prior to reuse or redevelopment. Plan for reuse of contaminated areas in a manner that is compatible with the nature of the contamination and subsequent remediation efforts.
    - **Policy S-4.4:** Avoid locating sensitive uses near established hazardous materials users or industrial areas where incompatibilities would result, except in cases where appropriate safeguards have been developed and implemented.

- **Goal S-5:** Establish and maintain an effective emergency response program to respond to disasters and maintain continuity-of-life support functions during an emergency.
    - **Policy S-5.3:** Develop, implement, and maintain an effective evacuation program for areas of risk in the event of a disaster.
- **Goal S-7:** Comply with the McClellan-Palomar Airport Land Use Compatibility Plan.
    - **Policy S-7.1:** Record an overflight notification document in association with the approval of any new residential land use within the AIA [airport influence area] overflight notification area consistent with the ALUCP [Airport Land Use Compatibility Plan].

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10, the project is consistent with the overall goals and policies of the General Plan pertaining to hazards and hazardous materials.

3.8.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the project would:

- **Threshold #1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- **Threshold #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.
- **Threshold #3:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- **Threshold #4:** Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment.
- **Threshold #5:** For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area
- **Threshold #6:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- **Threshold #7:** Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.8.4 Project Impact Analysis

Impacts related to hazards and hazardous materials as a result of development of the project are analyzed below.

Threshold #1. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the project would entail transport, use, or disposal of potentially hazardous materials including, but not limited to, diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, human waste, and chemical toilets. Direct impacts to human health and biological resources from accidental spills of small amounts of hazardous materials from construction equipment could occur with the transport, use, or disposal of these materials. However, existing federal and state standards listed in Section 3.8.2, Regulatory Setting, related to the handling, storage, and transport of these materials would be implemented during construction of the project.

The project would involve the operation and maintenance of a new light industrial building. Operation of the project would likely involve the use of industrial-grade chemicals used in the day-to-day operation of the facilities as well as commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available products. While these materials could be stored on the project site, storage would be required to comply with the guidelines established by the manufacturer's recommendations. Existing operations of Hughes Circuits Inc. adjacent to the project site conducts PCB fabrication and has a permit to discharge pretreated industrial wastewater. This operation would not be conducted in the new proposed building; only assembly would occur under project operation. Assembly does not generate any hazardous waste.

Consistent with federal, state, and local requirements, the transport, removal, and disposal of hazardous materials from the project site would be conducted by a permitted and licensed service provider. Any handling, transport, use, or disposal must comply with all applicable federal, state, and local agencies and regulations.

The project's compliance with all standards required through federal, state, county, and municipal regulations, in addition to project-specific plans reviewed by the City, would ensure potential impacts to the public or the environment through routine transport, use, or disposal of hazardous materials would not be substantial. Therefore, impacts of the project would be **less than significant**.

Threshold #2. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As discussed under Threshold 1, above, construction of the project would entail transport, use, or disposal of potentially hazardous materials including, but not limited to diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, and lubricant oils. As described above, the project would be required to comply with all standards required through federal, state, county, and municipal regulations, in addition to project-specific plans review by the City, which would ensure potential impacts related to hazardous materials would not be significant.

The project would involve the operation and maintenance of a new light industrial building. Operation of the project would likely involve the use of industrial-grade chemicals used in the day-to-day operation of the facilities as well as commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available products. While these materials could be stored on the project site, storage would be required to comply with the guidelines established by the manufacturer's recommendations. Consistent with federal, state, and local requirements, the transport, removal, and disposal of hazardous materials from the project site would be conducted by a permitted and licensed service provider. Any handling, transport, use, or disposal must comply with all applicable federal, state, and local agencies and regulations. Therefore, impacts would be **less than significant**.

Threshold #3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The project site is located within 0.25 miles of an existing or proposed school. The closest school to the project site is High Tech Elementary North County, located approximately 0.1 miles south of the project site. However, as previously stated, the project's compliance with all standards required through federal, state, county, and municipal regulations, in addition to project-specific plans reviewed by the City, would ensure potential impacts to the public or the environment through routine transport, use, or disposal of hazardous materials would not be substantial. Additionally, the project would support the expansion of the existing operations of Hughes Circuits Inc., located adjacent to the project site to the south. As described above, existing operations of Hughes Circuits Inc., adjacent to the site conducts PCB fabrication and has a permit to discharge pretreated industrial wastewater, this operation would not be conducted in the new proposed building; only assembly would occur under project operation, and assembly does not generate any hazardous waste.

As such, the project would be consistent with the surrounding industrial uses as well as the current industrial use zoning designation for the project site. Therefore, project impacts would be **less than significant.**

Threshold #4. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment?

The Hazardous Waste and Substances Sites (Cortese List) is a planning document providing information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency to develop, at least annually, an updated Cortese List. The Department of Toxic Substances Control is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List (CalEPA 2022). The project site is not located on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (DTSC 2022; RWQCB 2022). The closest hazardous materials site is located approximately 63 feet south of the project site and is considered a Tiered Permit site (71003390) (DTSC 2022). This site has not been evaluated and no potential contaminants of concern have been identified. Therefore, this impact would be **less than significant**.

Threshold #5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The closest airport to the project site is the McClellan-Palomar Airport, which is located approximately 3.9 miles west of the project site. The project site is located within the McClellan-Palomar Airport Influence, Review Area 2 (San Diego County Regional Airport Authority 2011). Per the McClellan-Palomar Airport Land Use Compatibility Plan, limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2. The project site would not be characterized as an area of high terrain, defined as a maximum height of 795 feet amsl or as in an area of Terrain Penetration to Airspace Surfaces. The project site is characterized by undeveloped terrain and is relatively flat. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the project site to 535 feet above mean sea level in the northwest portion of the project site. The proposed building would be a maximum of 43 feet high. The height and density of the project would be consistent with the existing surrounding development. Therefore, this impact would be **less than significant**.

Threshold #6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

According to the General Plan Safety Element, the San Marcos Emergency Operations Plan governs the operations of the City during a disaster. This plan addresses response to moderate evacuation scenarios, including the identification of evacuation points and general routes (City of San Marcos 2012).

The project would be required to abide by the standards set forth in the San Marcos Emergency Operations Plan. Implementation of the project is not expected to impact any roadway or staging areas that are identified in any emergency planning documents and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As required under the California Fire Code, the project would be required to present development plans that afford fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, Section 503.1 through Section 503.4 of the California Fire Code), an adequate number of emergency rated entrances to the community (Appendix D, Section D106 of the California Fire Code), and entryway gate access for first responders (Chapter 5 of the California Fire Code, Section 503.6). The proposed point of entry will be reviewed by SMFD and would be required to meet the qualifications for emergency access to and from the project site. Furthermore, as described in Section 3.13, Public Services, of this environmental impact report, the Fire Response Technical Memorandum prepared for the project (Appendix H) determined that SMFD would arrive at the project site between 3:37- and 3:50-minute travel time (6:07- to 6:40-minute total response time). This results in up to 53 seconds to drive within the project site to the most remote unit, which is achievable based on the project site's roads and smaller overall size.

Therefore, it is determined that impacts related to emergency response or emergency evacuation as a result of the project would be **less than significant**.

Threshold #7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project site is not located in any fire hazard severity zones (CAL FIRE 2022), nor is the project site located near any local responsibility areas, state responsibility areas, or near lands classified as very high fire hazards severity zones according to the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2022). The project site is an undeveloped lot that is relatively flat and shows signs of previous disturbance. The project would be required to comply with all applicable state and local fire codes, including compliance with the California Fire Code and the SMFD, which require a design that affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, Section 503.1 through 503.4 of the California Fire Code). Furthermore, as determined in the Fire Response Technical Memorandum prepared for the project (Appendix H), SMFD's existing Station 2 would adequately serve the project site while maintaining SMFD's response goals.

For the reasons stated above, and considering the project site is located in an urbanized area surrounded on all sides by existing development, implementation of the project would not expose people or structures to risk of loss, injury, or death involving wildfires, and impacts would be **less than significant**.

3.8.5 Cumulative Impact Analysis

Hazardous materials impacts are generally site specific and thus handled on a site-by-site basis. Identified cumulative projects are located more than 0.25 miles from the project site and thus would be unlikely to result in cumulative impacts to hazardous and hazardous materials together with the project. In addition, any cumulative project would be required to identify existing hazardous materials on site and comply with existing regulations related to use, transport, and disposal of hazardous materials. Similarly, all cumulative projects would be required to analyze and properly mitigate any impacts to the existing evacuation plan if impacts are identified.

With regard to wildfire hazards, any of the cumulative projects proposed within the wildland urban interface would be required to meet minimum fire fuel modification and/or clearing requirements in addition to meeting whatever standards of the various fire codes in effect at the time of building permit issuance. For projects within the City, these requirements are implemented through preparation of and compliance with a Fire Protection Plan, which is reviewed and approved by the Fire Marshal.

Therefore, the project's and cumulative projects' compliance with applicable regulations related to hazards and wildfire would ensure impacts related to hazards and hazardous materials would be **less than significant**.

3.8.6 Mitigation Measures

No impacts to hazards and hazardous materials were identified; thus, no mitigation measures are required.

3.8.7 Conclusion

As discussed in Section 3.8.4, Project Impact Analysis, above, the project site is currently undeveloped and is not listed on any hazardous materials sites or databases. Construction and operation of the project is not expected to result in the transport, release, or disposal of any significant hazardous materials. Development of the project would not interfere with an adopted emergency response plan or emergency evacuation plan. Lastly, the project site is not designated as located within a high fire severity zone, and all development on site would be constructed in accordance with all applicable fire codes and regulations. As such, project- level and cumulative-level impacts related to hazards and hazardous materials would be **less than significant**.

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3.9 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology and water quality of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project.

The analysis in this section relies on the following reports prepared for the project:

- Hydrology Study, prepared by Excel Engineering, June 3, 2022 (included as Appendix F-1 to this environmental impact report [EIR]).
- Storm Water Quality Management Plan, prepared by Excel Engineering, November 13, 2023 (included as Appendix F-2 to this EIR).
- Preliminary Geotechnical Investigation, prepared by Geocon Inc, October 1, 2021 (included as Appendix E to this EIR).

Table 3.9-1, Hydrology and Water Quality Summary of Impacts, summarizes the project- and cumulative-level hydrology and water quality impact analysis by threshold.

Table 3.9-1
Hydrology and Water Quality Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	Less than Significant	Less than Significant	Less than Significant
#2: 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	Less than Significant	Less than Significant
#3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.	Less than Significant	Less than Significant	Less than Significant
#4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.	Less than Significant	Less than Significant	Less than Significant

Table 3.9-1
Hydrology and Water Quality Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#5: 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 create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less than Significant	Less than Significant	Less than Significant
#6: 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 impede or redirect flood flows	Less than Significant	Less than Significant	Less than Significant
#7: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	No Impact	No Impact	No Impact
#8: Conflict with or obstruct implementation of water quality control plan or sustainable groundwater management plan?	Less than Significant	Less than Significant	Less than Significant

3.9.1 Existing Conditions

This section details the existing hydrology, water quality and groundwater conditions on the project site.

Hydrologic Setting

The project site is located at the northeast corner of South Pacific Street in the city of San Marcos, San Diego County, California. The project site is currently undeveloped and consists of sparse to dense vegetation with drainage conveyance. Total change in elevation across the site is approximately 8 feet, with surface drainage directed toward the southern edge of the property. The project site is relatively flat, with elevations on site ranging from approximately 524 feet to 532 feet above mean sea level (amsl) (Appendix E).

Water arrives on site via natural rainfall and off-site runoff. The majority of the existing off-site surface slopes generally from the north to the south. When the water reaches South Pacific Street along the west border of the project site, it flows into the existing dual 48-inch-diameter pipes then flow through vacant property before entering the project area. When water reaches the north edge of the project site, it flows along the slope until it reaches the point of connection (POC) at the southern edge of the

property at South Pacific Street (Appendix F-1). The project site is located in Zone X of the Flood Insurance Rate Map (FIRM) Panel 06073C0789H. Zone X is designated to be areas determined to be outside the 500-year floodplain (FEMA 2012).

Water Quality

The project is located within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB). The San Diego Region is divided into 11 hydrologic units. The project site is located in Richland Hydrologic Subarea (HSA 904.52), within the San Marcos Hydrologic Area (HA 904.52) which is part of the Carlsbad Watershed (Hydrologic Unit 904.00) (RWQCB 2022). The Carlsbad Hydrologic Unit (904.00) is a triangular area covering approximately 210 square miles (SWRCB 2002). This hydrologic unit is bordered by San Luis Rey Hydrologic Unit to the north and San Dieguito Hydrologic Unit to the east and south. The Carlsbad Hydrologic Unit includes one small coastal lagoon (Loma Alta Slough) and four major coastal lagoons, including Buena Vista, Agua Hedionda, Batiquitos, and San Elijo (SWRCB 2002). The Carlsbad Hydrologic Unit is separated into four primary sub-watersheds based on topographical drainage areas to creek systems, including: 904.1 San Luis Rey River; 904.3 Agua Hedionda Creek; 904.5 San Marcos Creek; and 904.6 Escondido Creek. Each of these sub-watershed areas is further refined by eight creek system branches by hydrographic subareas (HSAs) (City of San Marcos 2012a).

The protection of watersheds and water quality is a prominent concern for the City of San Marcos (City) because all of the major creeks and their tributaries (San Marcos, Agua Hedionda, and Escondido) are listed by the State Water Resources Control Board (SWRCB) as impaired for a variety of pollutants that ultimately affect the water quality of surface and groundwater supplies and biological resources. The City has partnered with other jurisdictions in the watersheds to implement Water Quality Management Plans in coordination with the San Diego RWQCB Region 9 for nutrients and bacteria to protect the watersheds and address the water body impairments. The City is the lead agency for the nutrient management plan in the Upper San Marcos Creek Watershed (City of San Marcos 2012a).

The San Diego RWQCB has adopted a Basin Plan that outlines beneficial uses and water quality objectives that are protective of the beneficial uses for each of the HSA areas in the General Plan area. In addition, the San Diego RWQCB has adopted Order R9-2007-0001, the San Diego Municipal Stormwater Permit, the Bacteria I Order total maximum daily load (TMDL), and is providing oversight with a stakeholder-driven nutrient TMDL for Upper San Marcos Creek (HSA 904.52 and 904.53) to address the impairments in San Marcos Creek and Lake San Marcos. The City is the lead agency for the Upper San Marcos Creek nutrient TMDL. The City of San Marcos regionally and locally implements the requirements of Order R9-2007-0001. This includes best management practice inspection programs for businesses, municipal facilities, and treatment control facilities; preventative programs such as street sweeping and storm drain facility cleaning; monitoring water quality within the City of San Marcos; and integrating site design, source control, low-impact development (LID), treatment

controls, and hydromodification design for City projects and private development and redevelopment to reduce polluted storm water from entering the City's storm drain system (City of San Marcos 2012a).

Due to the undeveloped condition of the project site and relatively flat terrain, the project site in current conditions does not contribute to water quality issues in the City.

Groundwater

As described in the Preliminary Geotechnical Investigation prepared for the project (Appendix E), groundwater was encountered between 4 and 10 feet below existing grade. The use of dewatering techniques may be necessary if excavations below the groundwater elevation occur.

The San Diego RWQCB Basin Plan identifies beneficial uses for groundwater in the four primary subwatersheds as municipal, agricultural, and industrial uses. The City of San Marcos is located in the California Department of Water Resources (DWR) South Coast Hydrologic Region. DWR Bulletin 118 identifies the San Marcos Area as Basin 9-32. The DWR San Marcos Area is 2,129 acres. This groundwater basin is located entirely within San Marcos Creek HSA 904.52, which is designated as impaired and has a hydrologic connection to Lake San Marcos. Other minor groundwater basins and wells are located throughout the San Marcos General Plan area outside of Basin 9-32; however, the DWR Basin 9-32 is the only groundwater basin formally designated in the General Plan Area.

Protection of the groundwater beneficial uses identified in the Basin Plan through the implementation of watershed protection programs in the City is critical to protecting the City's ability to use these resources.

Due to the undeveloped condition of the project site, the project site in current conditions does not contribute to groundwater contamination, nor is groundwater used in current conditions. The project would connect to existing City infrastructure for water use and would not use groundwater for construction or operation.

3.9.2 Regulatory Setting

This section details the applicable federal, state, and local regulations pertaining to hydrology and water quality.

Federal

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard

zones in the community. The standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1% annual exceedance probability (i.e., the 100-year flood event). The project site is not located within a 100-year flood zone.

Federal Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1977.

Under the CWA, the U.S. Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater discharge standards for industry. The EPA has also set water quality standards for contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters unless a permit was obtained.

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a TMDL for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. The EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. National Pollutant Discharge Elimination System permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal CWA to regulate municipal and industrial discharges to surface waters of the United States. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the federal EPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate from a wide area rather than from a definable point. Nonpoint pollution often enters receiving waters in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, three types of nonpoint source discharges are controlled by the NPDES program: nonpoint source discharge caused by general construction activities, the general quality of storm water in municipal storm water systems, and discharges associated with industrial operations. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by the EPA that are not included in Phase I.

In accordance with NPDES regulations, in order to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity that disturbs 1 acre or more must obtain a General Construction Activity Stormwater Permit. Permit applicants are required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement best management practices (BMPs), such as erosion and sediment control and non-stormwater management measures, to reduce construction effects on receiving water quality.

Examples of typical BMPs implemented in SWPPPs include using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water.

The project would be subject to permit requirements and would develop and implement a project-specific SWPPP to minimize construction activity impacts.

State

California Water Code Division 7 (Porter-Cologne Act)

The California Water Code contains provisions regulating water and its use. Division 7 establishes a program to protect water quality and beneficial uses of the state water resources including groundwater and surface water. The SWRCB and RWQCBs administer the program and are responsible for control and water quality. They establish waste discharge requirements, oversee water quality control planning and monitoring, enforce discharge permits, and establish ground and surface water quality objectives.

State Water Resources Control Board

In California, the SWRCB has broad authority over water-quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include California Department of Public Health (for drinking water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife, and the Office of Environmental Health and Hazard Assessment.

Construction General Permit

Owners and operators of construction activities who disturb 1 or more acres of soil, or less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the SWRCB's Order 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), the Construction General Permit. Construction and demolition activities subject to this permit include clearing, grading, grubbing, and excavation or any other activity that results in a land disturbance equal to or greater than 1 acre. Applicants are required to submit a Notice of Intent to the SWRCB and prepare a SWPPP. The SWPPP must identify BMPs that are to be implemented to reduce construction impacts on receiving water quality based on potential pollutants. The SWPPP also must include descriptions of the BMPs to reduce pollutants in storm water discharges after construction phases are completed at a site (post-construction BMPs).

Regional Water Quality Control Board

The project site is situated within the jurisdiction of the San Diego RWQCB (Region 9). The San Diego RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction.

The project site is located in the Richland Hydrologic Subarea within the San Marcos Hydrologic Area, which is part of the Carlsbad Watershed. The Water Quality Control Plan for the San Diego Basin (Basin Plan) was prepared by the RWQCB in compliance with the federal CWA and the Porter-Cologne Act and establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of water bodies in the area. Because the City of San Marcos is located within the RWQCB's jurisdiction, all discharges to surface water or groundwater are subject to the Basin Plan requirements.

In May 2013, the San Diego RWQCB adopted Order R9-2013-0001, the new municipal NPDES permit for 39 municipal, county government, and special district entities located in southern Orange County, southwestern Riverside County, and San Diego County who own and operate large municipal separate storm sewer systems (MS4s) that discharge storm water runoff and non-stormwater runoff to surface waters throughout the San Diego Region. This permit has requirements for development projects to

minimize or eliminate the impacts of such development on water quality. The project is subject to the requirements of the municipal permit as it is implemented via the Carlsbad Watershed Urban Runoff Management Program. The specific requirements include the selection of appropriate BMPs to avoid, prevent, or reduce the pollutant loads entering the storm drain system and receiving waters. The permit was amended in February 2015 by Order R9-2015-0001 and in November 2015 by Order R9-2015-0100.

Provision D.1.a of Order R9-2013-0001 requires the San Diego Stormwater Co-permittees to continue water monitoring programs established within previous Orders and pursuant to the approved Hydromodification Management Plan (January 2011). The City of San Marcos is one of the co-permittees.

To comply with Order R9-2013-0001, as amended, the February 2016 Model BMP Design Manual – San Diego Region (BMP Design Manual) was developed to provide County-specific project design and post-construction storm water requirements for development projects and replace the prior San Diego Regional Model Standard Urban Stormwater Mitigation Plan. The BMP Design Manual was used to recommend BMPs and LID features for the project. LID is an approach to land development that uses multiple small-scale natural detention and filtration features to manage storm water as close to its source as possible. LID employs principles such as preserving and re-creating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats storm water as a resource rather than a waste product.

Local

Carlsbad Watershed Management Area Water Quality Improvement Plan

On May 8, 2013, the San Diego RWQCB adopted Order R9-2013-0001, an NPDES MS4 Permit, regulating discharges from Phase I MS4s in the San Diego Region (SWRCB 2015). Provision B of the Permit requires Responsible Agencies, in each of the region's Watershed Management Areas to develop Water Quality Improvement Plans (WQIPs) that identify water quality conditions and strategies to improve water quality within the watershed. Through the WQIP approach, Highest Priority Water Quality Conditions within the Watershed Management Area are identified, and strategies are implemented through the Responsible Agencies' Jurisdictional Runoff Management Programs to progressively improve water quality. The plans contain an adaptive planning and management process and a public participation component. The Carlsbad Management Area Water WQIP was prepared in June 2016 for the Carlsbad Watershed Management Area Responsible Agencies, which include the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego. The 2021 update of the WQIP was submitted to the Regional Board in September 2021 and was accepted by the Regional Board in December 2021 (Carlsbad Watershed Management Area Responsible Agencies 2021).

San Marcos Storm Water Standards

The City has adopted the use of the 2020 Model BMP Design Manual for the San Diego Region as the City's Storm Water Standards Manual, and the project must comply with the standards and regulations contained therein (County of San Diego 2020).

City of San Marcos General Plan

Conservation and Open Space Element

The following are applicable goals and policies from the City of San Marcos General, Conservation and Open Space Element related to hydrology and water quality (City of San Marcos 2012a):

- **Goal COS-6:** Protect and restore appropriate surface water and groundwater beneficial uses through prioritizing the improvement of locally impaired water bodies within the City of San Marcos sub watersheds.
    - **Policy COS-6.2:** Promote watershed stewardship as the community norm.
- **Goal COS-7:** Achieve sustainable watershed protection for surface and ground water quality that balances social, economical, and environmental needs.
    - **Policy COS-8.4:** Require new development and redevelopment to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, BMPs, LID, hydromodification strategies consistent with the Current San Diego RWQCB Municipal Stormwater NPDES Permit, and all future municipal stormwater permits.

Safety Element

The following goal and policy in the City of San Marcos General Plan, Safety Element are applicable to flooding and flood control (City of San Marcos 2012b):

- **Goal S-2:** Minimize the risk to people, property, and the environment due to flooding hazards.
    - **Policy S-2.2:** Require existing private development to take responsibility for maintenance and repair of structures to resist flood damage.

Land Use and Community Design Element

The following goal and policies in the City of San Marcos General Plan, Land Use and Community Design Element are applicable to storm water drainage facilities (City of San Marcos 2012c):

- **Goal LU-15:** Flood control and storm water drainage facilities: ensure adequate flood control and storm water drainage is provided by the community.
    - **Policy LU-15.1:** Implement activities, practices, procedures, or facilities that avoid, prevent, or reduce pollution of the San Marcos Storm Water Conveyance System and receiving waters.
    - **Policy LU-15.2:** Improve inadequate or undersized drainage/flood control facilities to solve both small neighborhood and large regional drainage and flood control problems.
    - **Policy LU-15.3:** Avoid, to the extent possible, development in floodplain and flood prone areas.
    - **Policy LU-15.4:** Retain drainage courses in their natural condition, to the extent possible. Consider smaller-scale drainage improvements to protect the environment and avoid disturbing natural drainage courses; consider detention areas and raised building pads.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10, the project is consistent with the applicable goals and policies pertaining to hydrology and water quality.

City of San Marcos Ordinances

The Storm Water Management and Discharge Control Ordinance (San Marcos Municipal Code Chapter 14.15) requires that all new development and redevelopment activities comply with the storm water pollution prevention requirements. These storm water pollution prevention requirements, which are described in detail in Section 14.15.050 of the Municipal Code "Reduction of Pollutants in Storm Water," include construction, development and redevelopment, and residential BMPs.

3.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

- **Threshold #1:** Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- **Threshold #2:** Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

- **Threshold #3:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.
- **Threshold #4:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
- **Threshold #5:** 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 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.
- **Threshold #6:** 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 impede or redirect flood flows.
- **Threshold #7:** In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- **Threshold #8:** Conflict with or obstruct implementation of a water quality control or sustainable groundwater management plan.

3.9.4 Project Impact Analysis

This section considers the impacts to hydrology and water quality that would result from implementation of the project.

Threshold #1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction activities associated with the project could result in potential impacts to water quality. In addition to sediment erosion from ground-disturbing activities on the project site, fuels, oils, lubricants, and other hazardous substances used during construction could be released and potentially impact water quality.

The project would be required to comply with the NPDES SWRCB Construction General Permit Order No. 2009-0009-DWQ for storm water discharges and general construction activities, and would incorporate standard BMPs, such as regular cleaning or sweeping of construction areas and impervious areas, and various storm water BMPs, such as filtration media screens. In compliance with the Construction General Permit, a SWPPP will be prepared for the project that would specify BMPs

that would be implemented during construction to minimize impacts to water quality. Lastly, project implementation of biofiltration, source control, and site design BMPs would effectively treat post-construction storm water runoff prior to discharge from the site in compliance with the requirements of the BMP Design Manual and BMPs outlined in the Storm Water Quality Management Plan (SWQMP) (Appendix F-2).

The proposed biofiltration features on site would be subject to regular inspection and maintenance. The property owner is required, pursuant to the City's Municipal Code Section 14.15 and the BMP Design Manual, to enter into a storm water management and discharge control maintenance agreement for the installation and maintenance of permanent BMPs prior to issuance of permits.

As described in Section 3.8, Hazards and Hazardous Materials, of this EIR, operation of the project would likely involve the use of industrial-grade chemicals used in the day-to-day operation of the facilities as well as commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available products. Operation of the project is not expected to include such uses that would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

The implementation of biofiltration, source control, site design BMPs and a SWPPP would effectively treat runoff prior to discharge from the site in compliance with the requirements of the BMP Design Manual and BMPs outlined in the SWQMP. Therefore, with implementation of all required BMPs as conditions of project approval, the project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. Impacts are expected to be **less than significant**.

Threshold #2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

As discussed above, groundwater was encountered between 4 and 10 feet below existing grade. The use of dewatering techniques may be necessary if excavations below the groundwater elevation occur. As described in response to Threshold #1, the project would treat storm water runoff through the use of biofiltration basins. All storm water would be adequately treated by the biofiltration basins prior to being discharged to natural/undisturbed areas that could allow the runoff to infiltrate into the ground and eventually reach groundwater. As the project would use biofiltration and BMPs that would effectively treat storm water runoff, it is not expected that project implementation would have a potentially significant adverse impact on groundwater quality or cause or contribute to an exceedance of applicable groundwater receiving water quality objectives or degradation of beneficial uses.

Further, as discussed in Section 3.17, Utilities and Service Systems, the project would receive water from the Vallecitos Water District, who in turn, receives its water from the Metropolitan Water District

of Southern California. The Metropolitan Water District of Southern California obtains water from local sources as well as the Colorado River, via the Colorado River Aqueduct, and the Sacramento-San Joaquin Delta, via the State Water Project (MWD 2021). As the project would not use groundwater for construction or operation, and would not interfere with infiltration and groundwater recharge, implementation of the project would not decrease groundwater basins through increasing water demand on site or impede sustainable groundwater management of any groundwater basin. Therefore, impacts would be **less than significant**.

Threshold #3. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

There are no existing streams or rivers on site that would be substantially altered as a result of project implementation. As discussed above, the project site is currently a vacant lot and has no existing impervious areas. However, project implementation would introduce new impervious areas and include on-site drainage systems which would alter the existing drainage pattern on the project site.

The project proposes to build a building, parking and landscape areas. The proposed parking slopes to the project's biofiltration basin (BMP-A) at 0.5%. To decrease impervious area on the site, the parking stalls would be installed with pervious concrete. The proposed building would discharge roof water into BMP-A, and BMP-B. After all storm water from parking lot and roof get collected and treated in BMP-A and BMP-B, it would flow into the 48-inch storage tank, which would be located at the north and east edge of the project site. This storage tank would be used for detaining post-developed on-site water. At the end of the storage tank, a weir plate with two orifices would be used for regulating low flow. Each of the proposed biofiltration basins would have an emergency spillway that ultimately allow water to go to the street.

A 24-inch-diameter pipe would connect the storage tank with two proposed new 66-inch culverts. These two new 66-inch-diameter culverts would run from the north to the south and meet with the existing two 66-inch culverts at South Pacific Street. These two 66-inch culverts would route storm water through the site and finally collect into the POC at South Pacific Street. At the west and south edge of the project site, there would be approximately 0.5 acres that include pervious and landscaped slope that would not flow to the basins. This section would drain surface water from the north to the south and collect in an existing 18-inch storm drain pipe which would tie to an existing 27-inch storm drain to the POC.

At the south side of the project site, BMP-C would be located within a modular wetland system to convey storm water from north to south. The proposed 18-inch outlet pipe of the modular wetland would connect with the existing 18-inch reinforced concrete pipe. Storm water would drain southernly

to the modular wetland system and get treated, then would drain into the existing 18-inch storm drain pipe to the POC.

At the southeast corner of the project site, a dispersion area would be located to route surface runoff from impervious street area to the adjacent pervious area. This is to slow surface runoff and reduce discharge by infiltration and evapotranspiration. BMP-D is the dispersion area for DMA-4. A total of 100% of the impervious area would be going to the dispersion area. Lastly, at the east part of the project site, water would be intercepted at the south easterly corner at a headwall which connects to dual 24-inch pipes. These two new 24-inch pipes go under BMP-B and connect with the two proposed new 66-inch culverts to route storm water to the POC at South Pacific Street (Appendix F-2).

With implementation of the proposed BMPs and biofiltration basins, the project would not generate runoff volumes that would significantly alter the overall drainage on site. Additionally, project-related runoff would be adequately treated prior to discharge into planned drainage systems via biofiltration and BMPs such that the project would not provide substantial additional sources of polluted runoff.

The project would be required to demonstrate adequate drainage on site, and connections off site to existing facilities, in project-specific plans to be reviewed and approved by the City. Further, implementation of BMPs in the SWQMP and a SWPPP would ensure construction of the project would not result in substantial erosion or siltation on or off site. The Hydrology Study (Appendix F-1) recommends storm drains, such as biofiltration basins, for the project site which would reduce the peak storm water discharge of the site by 0.18 cubic feet per second when comparing pre- and post-development conditions. Recommendations outlined in the Hydrology Study and SWQMP would be conditions of approval for the project. These components would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantities and rates that are similar to, or less than, pre-development conditions. Therefore, it is determined that impacts to existing drainage on site would be **less than significant**.

Threshold #4. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Please refer to response to Threshold #3 above. Implementation of the project would increase the area of impervious surface on the project site, which could increase runoff flow rates and volumes. However, the project would include implementation of BMPs during construction and proposed storm drain and biofiltration basins during operation as recommended by the Hydrology Study (Appendix F-1). These BMPs would be sized to treat, store, and release storm water runoff such that it does not substantially alter the existing drainage patterns and will not exceed the capacity of the downstream storm system. Implementation of BMPs would be a condition of approval for the project to ensure

facilities would be designed to collect and convey runoff from 100-year storm events, as well as carefully handle runoff and comply with applicable regulatory requirements outlined in Section 3.9.2, Regulatory Setting, above. This would ensure that the runoff quantities generated by the project do not significantly alter the existing drainage pattern of the site resulting in flooding. Impacts would be **less than significant**.

Threshold #5. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?

Please refer to response to Threshold #3. Implementation of the project would increase impervious areas on site. However, adequate on-site drainage and off-site storm drain connection would be incorporated into the project site design to manage storm water on and off site as a result of project development. The Hydrology Study (Appendix F-1) recommends storm drains, such as biofiltration basins, for the project. These components would properly handle runoff to meet regulatory requirements and to ensure that post-development runoff would occur at rates that are similar to, or less than, pre-development conditions. Further, preparation and implementation of a SWPPP and implementation of project specific BMPs would ensure construction of the project would not result in substantial additional sources of polluted runoff. For these reasons, it is determined that implementation of the project would not alter the course of a stream or river, and development of the project is not expected to exceed the capacity of existing or planned storm water drainage systems, nor result in substantial sources of polluted runoff. Therefore, impacts related to storm water drainage would be **less than significant**.

Threshold #6: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Please refer to response to Threshold #3, #4 and #5, above. The project would increase the impervious surface area on site in comparison to existing conditions, which could increase runoff flow rates or volumes. However, the project site and the immediate area is relatively flat and does not currently result in flooding during storms. Storm drainage components recommended by the Hydrology Study (Appendix F-1) would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies rates that are similar to or less than pre-development conditions. On-site drainage facilities and off-site drainage connections would be designed to collect and convey runoff from 100-year storm events. Implementation of the project is not expected to impede or redirect flood flows and impacts to storm water drainage would be **less than significant**.

Threshold #7: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is approximately 8 miles inland from the Pacific Ocean and would not be subject to inundation by tsunami. The project site is not located within a 100-year flood hazard area, and is not located in flood hazard, tsunami, or seiche zones. Given that the project site is not located near a large standing body of water, inundation by seiche (or standing wave) is considered negligible. The project site is generally flat with no steep slopes and does not contain slopes subject to mudflows; and therefore, potential **no impacts** related to inundation would occur.

Threshold #8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Carlsbad Management Area Water WQIP update was accepted in December 2021 for the Carlsbad Watershed Management Area Responsible Agencies, which include the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego. The purpose of the Carlsbad WQIP is to guide the Responsible Agencies' Jurisdictional Runoff Management Plans toward achieving improved water quality in MS4 discharges (or storm water discharges) and receiving water bodies. Responsible Agencies' Jurisdictional Runoff Management Programs contain the strategies, standards and protocols by which each Responsible Agencies will implement their individual program in response to the priorities and goals established in the WQIP (Carlsbad Watershed Management Area Responsible Agencies 2021).

The project is located within the San Marcos Hydrologic Area, which is the second largest within the Carlsbad Watershed Management Area. The Carlsbad Management Area Water WQIP outlines areas of priority water quality conditions and highest priority water quality conditions. As such, the project would not conflict with or obstruct implementation of the Carlsbad Management Area Water WQIP or any other water quality plan. Further, the site is not located within a sustainable groundwater management plan area. Therefore, impacts are determined to be **less than significant**.

3.9.5 Cumulative Impact Analysis

The project and cumulative projects would result in an increase of impervious surfaces in the area. More specifically, other large development projects nearby would result in conversion of large pervious areas to impervious areas. This would potentially result in increased surface runoff, alteration of the regional drainage pattern, and flooding. However, like the project, each individual project applicant would be required to hydrologically engineer the respective cumulative project sites to ensure that post-development surface runoff flows can be accommodated by the regional drainage system.

The project, in conjunction with cumulative projects that drain to the San Marcos Hydrologic Area, have the potential to increase the concentration of pollutants in surface runoff and downstream water quality. However, all cumulatively considered projects would be subject to the same federal water

quality standards and state waste discharge requirements as the project. This includes preparation of project-specific SWPPPs per the NPDES permit program and implementation of associated BMPs to prevent construction-related runoff from polluting receiving waters.

As discussed above, the project would incorporate biofiltration and BMPs into the project site design to limit the potential for water quality impacts to the greatest extent feasible. By incorporating these features into the project design, the project would not substantially contribute to a significant cumulative impact to water quality. Impacts would be **less than significant.**

3.9.6 Mitigation Measures

Based on the analysis presented in Section 3.9.4, Project Impact Analysis, and Section 3.9.5, Cumulative Impact Analysis, no impacts were identified, and no mitigation measures are required.

3.9.7 Conclusion

The project would increase the amount of impervious surface area in comparison to existing conditions. However, as described above, storm drainage components recommended by the Hydrology Study (Appendix F-1) would properly handle runoff to meet regulatory requirements and to ensure that post-development runoff would occur at rates that are similar to, or less than, pre-development conditions. Appropriate design of on- and off-site drainage facilities, implementation of a SWPPP, SWQMP and BMPs, and implementation of all recommendations from the Hydrology Study and development-specific drainage plans would ensure the project would not substantially alter the drainage patterns on or off site or result in substantial polluted runoff. Therefore, impacts to hydrology and water quality as a result of the project is determined to be **less than significant.**

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3.10 LAND USE AND PLANNING

This section analyzes potential land use and planning impacts for the proposed Hughes Circuits Project (project). This section considers consistency with applicable land use plans and habitat conservation plans. Table 3.10-1 summarizes the land use impact analysis for the project.

Table 3.10-1
Land Use Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1: Physically divide an established community.	No Impact	No Impact	No Impact
#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.	Less than Significant	Less than Significant	Less than Significant

3.10.1 Existing Conditions

This section describes the existing planning context for the project site, including the General Plan and Zoning designations that currently apply to the site.

Project Site

As shown in Figures 2-1 and 2-2, the project is located in north San Diego County within the western portion of the City of San Marcos (City). The undeveloped project site is an approximately 10.46-acre site, located at the northeast corner of South Pacific Street and South Pacific Street in an urban area of the City, located in the City's Business/Industrial District (City of San Marcos 2012a). The project site is currently vacant and has no existing impervious areas. Topography within the project boundary is relatively flat with multiple wetlands, vernal pools, and vegetation communities throughout; additionally, a parcel of land owned by the San Diego County Water Authority ~~right of way~~ as well as a dirt walking path bisect the site. This is not a maintained walking path and does not provide access to other parcels beyond the project area. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the review area to 535 feet above mean sea level in the northwest portion of the review area. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is State Route 78, located approximately 0.8 miles north of the project site.

Existing General Plan Designation

As shown on Figure 2-4, the City of San Marcos General Plan designates the 10.46-acre project site as Light Industrial (LI) (City of San Marcos 2012a). The Light Industrial (LI) designation generally allows

for light manufacturing, processing, assembly, wholesale, office, and research and development laboratories, all within enclosed buildings with limited outdoor storage. Development allowed under this land use designation must be consistent with those uses outlined in the City's municipal code and zoning ordinance, as well as the Light Industrial land use designation of the General Plan.

Existing Zoning Designation

As shown on Figure 2-5, existing zoning of the project site is Light Industrial (L-I). The purpose of the Light-Industrial zoning designation is to "provide for the grouping of light- and medium-intensity industrial and support service uses in a business-supportive setting. Generally, these areas will not include pedestrian-oriented businesses and will serve the loading, delivery, and indoor warehousing needs of light industrial space" (City of San Marcos 2022). The L-I Zone is intended to implement and be consistent with the Light Industrial land use designation of the General Plan (City of San Marcos 2022).

Surrounding Land Uses

The project site is immediately bordered by South Pacific Street to the south and west. Adjacent land uses include industrial and mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is State Route 78 located approximately 0.7 miles north of the project site.

3.10.2 Regulatory Setting

This section provides an overview of the regulatory setting related to planning and land use that applies to the project, including state, regional, and local regulation and planning documents.

State

California Planning and Zoning Law

The legal framework in which California cities and counties exercise local planning and land use functions is provided in the California Planning and Zoning Law, Government Code Sections 65000 et seq. Under state planning law, each city and county is required to adopt a General Plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (Section 65300). The General Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. A General Plan consists of several elements, including land use, circulation, housing, conservation, open space, noise, and safety; other elements may be included at the discretion of the jurisdiction that relate to the physical development of the county or city.

Regional/Local

San Diego Association of Governments San Diego Forward: The Regional Plan

The Regional Comprehensive Plan, adopted in 2004 by the San Diego Association of Governments (SANDAG), lays out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covers eight policy areas, including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity.

On October 9, 2015, the SANDAG Board of Directors adopted San Diego Forward: The Regional Plan (Regional Plan). The Regional Plan combines the two previously described existing regional planning documents: the Regional Comprehensive Plan and the 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Regional Plan updates growth forecasts and is based on the most recent planning assumptions considering currently adopted land use plans, including the City's General Plan. SANDAG's Regional Plan will be updated every 4 years to account for changes from ongoing land use planning decisions by local agencies. The most recent regional plan is the 2019 San Diego Forward Federal Transportation Plan, which builds off of the 2015 plan (SANDAG 2019). SANDAG is in the process of finalizing its 2021 Regional Plan, which will provide the long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources.

SANDAG Multiple Habitat Conservation Program

The Multiple Habitat Conservation Program (MHCP) is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County (SANDAG 2003). The MHCP encompasses the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Its goal is to conserve approximately 19,000 acres of habitat, of which roughly 8,800 acres (46%) are already in public ownership and contribute toward the habitat preserve system for the protection of more than 80 rare, threatened, or endangered species.

The City of San Marcos began preparing a draft of the City Subarea Plan of the MHCP in May 2001 and although the Subarea Plan has not yet been approved by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, the plan is a component of the adopted MHCP and is currently being used as a guide for open space design and preservation within the City (SANDAG 2001). The intent of the City's Draft Subarea Plan is to identify a citywide preserve system that meets local and regional biological goals while minimizing fiscal and economic impacts to the City and adverse impacts on private property owners. To help achieve this goal, certain areas, known as Focused Planning Areas, have been designated with parcel-level preserve goals which would contribute to achieving local and regional conservation goals while minimizing adverse effects on property rights

and property values. The project site is located within the northern Focused Planning Area within the MHCP planning area.

San Diego County Regional Airport Authority Land Use Compatibility Plan

The nearest public airport is the McClellan-Palomar Airport, which is located approximately 5 miles west of the project site. The McClellan-Palomar Airport Land Use Compatibility Plan contains policies to promote land use compatibility between the McClellan-Palomar Airport and adjacent and proximate land uses, to the extent these areas are not already developed with existing uses, and to protect the public health, safety, and welfare. Using airport-related forecasts and background data approved by the California Department of Transportation, Division of Aeronautics, the plan reflects anticipated growth of the airport over a 20-year horizon. The plan includes land use compatibility criteria and identifies policies applicable to the airport and surrounding land uses. The project site is located within the McClellan-Palomar Airport Influence Review Area 2 and an overflight notification is required (San Diego County Regional Airport Authority 2011). The influence area is regulated by the Airport Land Use Commission, which regulates land uses in the area to be compatible with airport-related noise, safety, airspace protection, and over-flight factors through review of development proposals within the airport influence area. Review Area 2 consists of limits on heights of structures in areas of high terrain. Residential development in Review Area 2 may be subject to annoyances commonly associated with proximity to airports, such as noise, vibration, and overflights.

City of San Marcos General Plan

The San Marcos General Plan consists of the following elements:

- *Land Use and Community Design Element* – Describes the desired future physical composition of the planning area in terms of location, type, and intensity of new development and open space to ensure balanced development that maximizes the long-term livability of the San Marcos community.
- *Mobility Element* – Describes the mobility strategy for the City, which identifies a network of options including streets, sidewalks, trails, and transit, that connects people with the City.
- *Conservation and Open Space Element* – Recognizes the habitat and scenic value of natural and cultural open spaces within the City and lists goals and policies that ensure long-term stewardship of these resources. This element also addresses climate change, water conservation, energy conservation, air quality, watersheds, and water quality.
- *Parks, Recreation and Community Health Element* – Identifies the recreational amenities and community service programs offered within the City and outlines goals for increased access to parks, trails, recreational facilities, and community service programs for all community members.

- *Safety Element* – Establishes policies and programs to protect public health, safety, and welfare of all residents and property. This element identifies and describes plans for response to natural and human-caused safety issues, including geologic, seismic, flood, and fire hazards.
- *Noise Element* – Identifies problematic noise sources within the City and outlines strategies to reduce overall ambient noise levels. This element also includes measures to strategically distribute land uses throughout the City.
- *Housing Element* – Describes the strategy for developing a variety of housing opportunities to accommodate all residents and preserve the quality of existing housing in order to promote safe, decent, and affordable housing within the 2013–2021 planning period.

The following goals and policies from the City's Land Use Element pertain to planning and are applicable to the project:

- **Goal LU-1:** Achieve a balanced distribution and compatible mix of land uses to meet the present and future needs of all residents and the business community.
    - **Policy LU-1.1:** Ensure that adjacent land uses complement one another by considering compatibility of activities, development patterns and architectural character elements, and access to various mobility choices.
    - **Policy LU-1.3:** Diversify land uses by providing mixed use land uses in strategic locations within the City that place housing adjacent to employment.
- **Goal LU-2:** Promote development standards and land use patterns that encourage long-term environmental sustainability.
    - **Policy LU-2.1:** Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
    - **Policy LU-2.2:** Encourage new development to be sited to respond to climatic conditions, such as solar orientation, wind, and shading patterns.
    - **Policy LU-2.3:** Require the incorporation of green building practices, technologies, and strategies into development projects per code standards.
    - **Policy LU-2.5:** Promote landscaping (e.g., native, drought-tolerant plants) that minimizes demands on water supply.
    - **Policy LU-2.7:** Promote the installation of trees to reduce the urban heat island effect and green infrastructure to reduce storm water runoff.

- **Goal LU-3:** Develop land use patterns that are compatible with and support a variety of mobility opportunities and choices.
    - **Policy LU-3.1:** Require that new development and redevelopment incorporate connections and reduce barriers between neighborhoods, transit corridors, and activity centers within the City.
    - **Policy LU-3.3:** Where feasible, consolidate inadequately sized land into parcels suitable for integrated development with improved pedestrian and vehicular circulation.
    - **Policy LU-3.5:** Provide an interconnected open space system that is accessible to the public, including pedestrian and equestrian links, bicycle paths, multi-use trails, recreation areas, and drainage-ways.
    - **Policy LU-3.7:** Require new development to prepare traffic demand management programs.
    - **Policy LU-3.8:** Require new development and discretionary actions to annex into a Congestion Management Community Facilities District.
- **Goal LU-5:** Promote community design that produces a distinctive, high-quality built environment with forms and character that create memorable places and enrich community life.
    - **Policy LU-5.3:** Use public landscaping, banners, and signage along streets, sidewalks, property frontages, and in public spaces to strengthen the City's identity and create a unique sense of place.
    - **Policy LU-5.4:** Require building and site design that respects the natural topography and iconic ridgelines that serve as the visual backdrop for San Marcos.
    - **Policy LU-5.5:** Encourage development of public spaces and plazas within commercial, mixed-use, and residential projects that include fire and water features that can accommodate civic events and function as community gathering areas.
    - **Policy LU-5.6:** Require a specific plan for strategic areas/properties that require high-quality design, orientation and development due to their location or visibility within the community.
    - **Policy LU-5.7:** Architecture shall be enhanced with high-end building materials, varied roof lines, and decorative details.
- **Goal LU-7:** Direct and sustain growth and expansion in areas of San Marcos that can support a concentration of a variety of uses and are particularly suitable for multimodal transportation and infrastructure expansion and improvements.
    - **Policy LU-7.2:** Coordinate pedestrian, transit and infrastructure upgrades with infill and redevelopment opportunities.

- **Goal LU-8:** Ensure that existing and future development is adequately serviced by infrastructure and public services.
    - **Policy LU-8.1:** New development shall pay its fair share of required improvements to public facilities and services.
    - **Policy LU-8.2:** Promote development timing that is guided by the adequacy of existing and/or expandable infrastructure, services, and facilities.
- **Goal LU-14:** Wastewater: Ensure an adequate wastewater system for existing and future development.
    - **Policy LU-14.2**: Ensure development approval is directly tied to commitments for the construction or improvement of primary water, wastewater, and circulation systems.
- **Goal LU-17:** Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective and efficient service for San Marcos.
    - **Policy LU-17.2**: Require all new development and redevelopment to provide the technology to support multiple telecommunications facilities and providers such as multi-media products, wireless technologies, and satellite communications.

The General Plan includes goals and policies applicable to other areas, such as mobility, safety, noise, and conservation. The project's consistency with applicable General Plan goals and policies is presented in Section 3.10.4, Project Impact Analysis.

San Marcos Municipal Code and Zoning Ordinance, Title 20

The provisions of Title 20 of the San Marcos Municipal Code are referred to as the Zoning Ordinance. The Zoning Ordinance is based on the official Zoning Map of the City of San Marcos. The purpose of this Zoning Ordinance is to protect and promote the public health, safety, comfort, convenience, and general welfare of the San Marcos community; to implement the policies of the General Plan; and to provide the physical, environmental, economic, and social advantages that result from the orderly planned use of land resources.

3.10.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to land use and planning would occur if the project would:

- **Threshold #1**: Physically divide an established community.
- **Threshold #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.

3.10.4 Project Impact Analysis

This section considers the impacts to land use and planning that would result from the project.

Threshold #1: Would the project physically divide an established community?

The physical division of an established community typically refers to the construction of a linear feature (e.g., a major highway or railroad tracks) or removal of a means of access (e.g., a local road or bridge) that would impair mobility within an existing community or between a community and outlying area.

Under the existing condition, the project site is currently undeveloped land and is not used as a connection between established communities. Instead, connectivity within the area surrounding the project site is facilitated via local roadways. As such, the project would not impede movement within the project area, within an established community, or from one established community to another.

As described in Chapter 2, Project Description, of this environmental impact report (EIR), the project proposes development of a 67,410-square-foot light industrial building, which would be located at the western-most portion of the project site, and the disturbance area associated with project construction would be limited to approximately 113,877 square feet or 2.61 acres of the 10.46-acre project site. The remaining 7.85 acres of the 10.46-acre project site would be preserved and restored open space and habitat area. Therefore, **no impacts** associated with the division of an established community would occur.

Threshold #2: Would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project would be consistent with the current General Plan and zoning designations for the site. Although the project would be consistent with the land use designation, a consistency analysis with the City's General Plan goals are included in Table 3.10-2.

Table 3.10-2
General Plan Consistency

Applicable General Plan Goals	Project Consistency with Policy
Conservation and Open Space Element	
Goal COS-1: Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence.	**Consistent.** Implementation of the project would result in potentially significant impacts to biological resources. However, compliance with existing regulations and implementation of Mitigation Measure (**MM-)BIO-1** through **MM-BIO-12** outlined in Section 3.3, Biological Resources, would ensure that the project would not conflict with the Multiple Habitat Conservation Program or draft San Marcos

Table 3.10-2
General Plan Consistency

Applicable General Plan Goals	Project Consistency with Policy
	Subarea Plan, or other applicable regulations related to biological resources. Additionally, 7.85 acres of the 10.46-acre project site would be preserved in place as open space and habitat area.
Goal COS-2: The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.	**Consistent**. The project site is currently vacant and zoned for Industrial uses. Implementation of the project would not convert any designated open space or agricultural uses. Additionally, 7.85 acres of the 10.46-acre project site would be preserved and restored open space and habitat area.
Goal COS-3: Protect natural topography to preserve and enhance the natural beauty of San Marcos.	**Consistent**. The project site is currently vacant and zoned for Industrial uses. Development of the project site would not significantly alter existing characteristics of the surrounding area as described in Section 3.1, Aesthetics, of this environmental impact report (EIR). Additionally, 7.85 acres of the 10.46-acre project site would be preserved and restored open space and habitat area.
Goal COS-4: Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.	**Consistent**. The project would be consistent with the land use and zoning designation of the project site. The project's proposed growth would be within the growth projections for the City and, at a regional level, the project is consistent with the underlying growth forecasts in the State Implementation Plan and Regional Air Quality Strategy. Therefore, implementation of the project would not conflict with the Regional Air Quality Strategy or State Implementation Plan and proposed development would be consistent with the growth in the region. Implementation of the project also would not violate any air quality standards or contribute substantially to an existing or projected air quality violation during construction or operation. Additionally, the project would not expose sensitive receptors to substantial pollutant concentrations or expose a substantial number of people to objectionable odors. In summary, impacts with regard to air quality would be less than significant, and no mitigation is required. Related to greenhouse gas emissions, the project would be consistent with the City's 2020 Climate Action Plan. Furthermore, the project would be consistent with and would not conflict with the applicable greenhouse gas–reducing strategies of the state, would be consistent with the California Air Resources Board's Scoping Plan, and would be consistent with San Diego Association of Governments's 2050 Regional Transportation Plan/Sustainable Communities Strategy. Impacts

Table 3.10-2
General Plan Consistency

Applicable General Plan Goals	Project Consistency with Policy
	with regard to greenhouse gas emissions would be less than significant, and no mitigation is required. Please refer to Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, of this EIR.
Goal COS-6: Protect and restore appropriate surface water and groundwater beneficial uses through prioritizing the improvement of locally impaired water bodies within the City of San Marcos subwatersheds.	**Consistent.** The project would be required to comply with the National Pollutant Discharge Elimination System State Water Resources Control Board Construction General Permit Order No. 2009-0009-DWQ for stormwater discharges and general construction activities, and incorporate standard best management practices (BMPs), such as regular cleaning or sweeping of construction areas and impervious areas, and various stormwater BMPs, such as filtration media screens. In compliance with the Construction General Permit, a Stormwater Pollution Prevention Plan (SWPPP) would be required for the project site that specify BMPs that would be implemented during construction to minimize impacts to water quality. Lastly, project implementation of biofiltration, source control, and site design BMPs would effectively treat post-construction stormwater runoff prior to discharge from the site in compliance with the requirements of the BMP Design Manual and BMPs outlined in the Stormwater Quality Management Plan.
Goal COS-7: Achieve sustainable watershed protection for surface and ground water quality that balances social, economical, and environmental needs.	**Consistent.** Please refer to the consistency response to Goal COS-6. Implementation of the project would not conflict with the goal to achieve sustainable watershed protection for surface and ground water quality.
Goal COS-8: Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect.	**Consistent.** Storm drainage components recommended by the Hydrology Study (Appendix F-1) would properly handle runoff from the project site to meet regulatory requirements and to ensure that post-development runoff would occur at rates that are similar to, or less than, pre-development conditions. Appropriate design of on- and off-site drainage facilities, implementation of a SWPPP, Storm Water Quality Management Plan and BMPs, and implementation of all recommendations from the Hydrology Study and development-specific drainage plans would ensure the project would not substantially alter the drainage patterns on or off site or result in substantial polluted runoff.
Goal COS-11: Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.	**Consistent.** Implementation of the project would not impact any identified archaeological resources, historical resources, or any known human remains interred outside a formal cemetery. However, based upon the analysis presented in Section 3.4, Cultural

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	Resources, the potential exists for impacts to unknown cultural resources resulting from project construction. These potentially significant impacts to archaeological resources and human remains would be mitigated to below a level of significance through implementation of MM-CR-1 through MM-CR-4.
Land Use and Community Design Element	
Goal LU-1: Achieve a balanced distribution and compatible mix of land uses to meet the present and future needs of all residents and the business community.	**Consistent.** The project land use designation would be consistent with adjacent industrial and commercial land uses as well as the City's goal to achieve a balanced distribution and compatible mix of land uses to meet the present and future needs of the City.
Goal LU-2: Promote development standards and land use patterns that encourage long-term environmental sustainability.	**Consistent.** Implementation of the project would implement the overarching goals of the City's General Plan, through various proposed features and components such as light industrial uses near existing commercial and industrial uses; designating opportunities for open space areas; and supporting vehicular, bicycle, and pedestrian modes of travel. As described in Section 3.15, Transportation, of the EIR, the project would implement Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos Boulevard. The Class II bicycle lanes would have a 1.5-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited. Additionally, sidewalks are proposed along the segment of South Pacific Street fronting the project. Sidewalks are also proposed throughout the internal roadways providing direct access to the proposed building. The project would incorporate sidewalks where they do not currently exist, and as outlined in the Local Transportation Analysis (LTA), project construction of curb ramps located along project driveways to include detectable surface warning tactiles to meet ADA requirements would further enhance the walkability and safety of the pedestrian environment at the project site.
Goal LU-3: Develop land use patterns that are compatible with and support a variety of mobility opportunities and choices.	**Consistent.** The North County Transit District operates the Palomar College Station Sprinter and Breeze transit station located within 1 mile of the project. The project would support a variety of mobility opportunities, and would promote multimodal transportation, consistent with General Plan Land Use Element Goals LU-2, LU-3, and LU-7. As described above, the project would implement Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	Boulevard. The Class II bicycle lanes would have a 1.5-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited. Additionally, sidewalks are proposed along the segment of South Pacific Street fronting the project. Sidewalks are also proposed throughout the internal roadways providing direct access to the proposed building. The project would incorporate sidewalks where they do not currently exist, and as outlined in the LTA, project construction of curb ramps located along project driveways to include detectable surface warning tactiles to meet ADA requirements would further enhance the walkability and safety of the pedestrian environment at the project site.
Goal LU-5: Promote community design that produces a distinctive, high-quality built environment with forms and character that create memorable places and enrich community life.	**Consistent**. All final project plans, including project renderings would be reviewed by the City, and would be expected to create a cohesive character with the surrounding environment.
Goal LU-7: Direct and sustain growth and expansion in areas of San Marcos that can support a concentration of a variety of uses and are particularly suitable for multimodal transportation and infrastructure expansion and improvements.	**Consistent**. The project would promote sustainability through locating the proposed light-industrial development on a site currently zoned for light industrial uses, and adjacent to other similar land uses in an urban area of the City. The project would be required to comply with Title 24 requirements, and would include amenities such as electric vehicle charging stations, installation of bicycle facilities, implement a Transportation Demand Management plan.
Goal LU-8: Ensure that existing and future development is adequately serviced by infrastructure and public services.	**Consistent.** As outlined in Section 3.13, Public Services, of this EIR, the project would be adequately served by San Marcos Fire Department and San Marcos Sheriff's Department, as well as utility infrastructure, as outlined in Section 3.17, Utilities and Service Systems, of this EIR. The project's estimated water and wastewater demand would be adequately provided by the Vallecitos Water District (VWD). Furthermore, the project would be required to comply with the City's Development Services Fees, and the applicant would be required to pay applicable fees for fire and police services; applicable school fees under Senate Bill 50; and applicable Public Facility Fees for City parks.
Goal LU-10: Fire protection, emergency services, and law enforcement: Provide effective, high-quality and responsive services.	**Consistent.** As outlined in Section 3.13 of this EIR, the project would be adequately served by San Marcos Fire Department and San Marcos Sheriff's Department.
Goal LU-13: Water Service and Supply: Manage and conserve domestic water resources by reducing	**Consistent.** As outlined in Section 3.17 of this EIR, the VWD Sewer and Water Study prepared for the

Table 3.10-2
General Plan Consistency

Applicable General Plan Goals	Project Consistency with Policy
water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.	project determined that there would be no deficiencies in the distribution system under normal or peak demand conditions. The Master Plan from 2018 indicated that the maximum demand for this project would be three times the average demand, and peak hour demand would be over six times the average. The project is located entirely within the VWD 855 pressure zone, which has water storage located in the 920 zone and 1028 Twin Oaks pressure zones. The project is expected to increase the average water demand by 3,393 gallons per day, which equates to a 500% increase in storage requirements or 16,965 gallons. However, the analysis showed that the current water storage capacity would be sufficient to meet the increased demand (Appendix J). Further, the project site would be developed in compliance with the California Green Building Code, which implements water efficiency standards for appliances and fixtures. Compliance with the California Green Building Code would further reduce project water usage in combination with VWD and MWD's ongoing water conservation practices. VWD requires a development-specific evaluation of water use to determine its ability to service any development and capacity fees to be paid. A "Water Availability" letter will be required for processing the project. Compliance with these regulations and conservation measures will ensure sufficient water supplies are available to service the project.
Goal LU-14: Wastewater: Ensure an adequate wastewater system for existing and future development.	**Consistent**. Implementation of the project would require the construction of on-site sewer lines that would connect to the public sewer system at one or more locations. The connections to the existing system will depend on on-site grading and utility design. A Water and Sewer Study was prepared for the project and is included as Appendix J to the EIR. The Hughes Circuits project is expected to increase the average wastewater generation by 3,393 gallons per day compared to the 2018 Master Plan land use. The modeling conducted not only focused on the sewer collection infrastructure within the immediate vicinity of the project but also on all downstream infrastructure up to Lift Station No. 1 on San Marcos Boulevard that would be impacted by the project flows. The modeling results revealed that there were no issues identified under the current approved density even under peak wet weather flows during ultimate build-out conditions. This EIR

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	has determined that impacts related to wastewater are less than significant.
Goal LU-17: Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective and efficient service for San Marcos.	**Consistent.** Communications systems for telephones, computers, and cable television are serviced by utility providers such as AT&T, Cox, Spectrum, and other independent cable companies. No specific systems upgrades are proposed. Electricity and natural gas would be provided by San Diego Gas & Electric. Electrical facilities throughout the City include a combination of above-ground and below-ground electrical distribution lines and utilities structures. implementation of the project would not result in inefficient, wasteful, or unnecessary electricity use. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by San Diego Gas & Electric. Project operation would require electricity for multiple purposes, including cooling, lighting, appliances, and various equipment. The project will be subject to the Title 24 building code that is adopted at the time building permits are obtained and thus may be subject to a more stringent energy standard than what was assumed herein, and the additional electricity demand for the project would not be unusual or wasteful as compared to overall local and regional demand for energy resources.
Mobility Element	
Goal M-1: Provide a comprehensive multimodal circulation system that serves the City land uses and provides for the safe and effective movement of people and goods.	**Consistent.** The project would promote sustainability through locating the proposed light-industrial development on a site currently zoned for light industrial uses, and adjacent to other similar land uses in an urban area of the City. The project would be required to comply with Title 24 requirements, and would include amenities such as electric vehicle charging stations, installation of bicycle facilities, implement a Transportation Demand Management plan, reduced landscaping water use, and tree planting. The project would implement Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos Boulevard. The Class II bicycle lanes will have a 1.5-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited. By installing frontage improvements such as sidewalks and bike lanes, the project provides and encourages multimodal transportation in the area.

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Applicable General Plan Goals	Project Consistency with Policy
Goal M-2: Protect neighborhoods by improving safety for all modes of travel and calming traffic where appropriate.	**Consistent**. The project would be required to provide a proposed circulation plan outlining safe movement within the project site, including emergency access, subject to review by the City and the San Marcos Fire Department. The project would be served by two driveways. Project Driveway #1 would be located along the east side of South Pacific Street to the west of the project site. This driveway would be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project driveway as the stop-controlled approach. Project Driveway #2 would be located along the north side of South Pacific Street to the south of the project site. This driveway will be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project driveway as the stop-controlled approach. The internal roadway on the project site would allow for two-way flow of vehicle traffic. The LTA recommends that the project incorporate appropriate signage to warn drivers of pedestrian foot traffic and consider installation of speed cushions/bumps along the internal roadway to calm traffic. Furthermore, sidewalks are proposed along the segment of South Pacific Street fronting the project. The LTA recommends that the project construct curb ramps located along project driveways to include detectable surface warning tactiles (yellow truncated domes) and meet all ADA requirements. As described above, the project would implement Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos Boulevard. The Class II bicycle lanes will have a 1.5-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited. The internal circulation network for the project would not include any hazardous design features or incompatible uses that would affect nearby neighborhoods.
Goal M-3: Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs), and walking, within the City.	**Consistent.** As outlined in the Traffic Impact Analysis prepared for the project (Appendix I), in order to reduce project impacts related to vehicle miles traveled, mitigation measures including a ridesharing program and on-site bicycle facilities would be incorporated into the project. Additionally, the project would provide electric vehicle charging infrastructure on site.

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
Safety Element	
Goal S-1: Reduce risks to the community from earthquakes by regulating new development and redevelopment to prevent the creation of new geologic and seismic hazards.	**Consistent.** There are no known active faults that run through the project site. The project would be designed in accordance with applicable California Building Code requirements, including for resistance to seismic shaking. Furthermore, the project would be constructed in accordance with other applicable regulations, the current seismic design specifications of the Structural Engineers Association of California, and all applicable requirements of the California Occupational Safety and Health Administration. These required seismic design considerations are used to minimize structural damage in the event of ground shaking. Additionally, the project would implement all recommendations per the Preliminary Geotechnical Investigation (Appendix E), as well as any project-specific recommendations with any potential supplemental geotechnical evaluations, in compliance with Section 17.32.040(f) of the City's Municipal Code.
Goal S-2: Minimize the risk to people, property, and the environment due to flooding hazards.	**Consistent.** The project would increase the impervious surface area on site in comparison to existing conditions, which could increase runoff flow rates or volumes. However, the project site and the immediate area is relatively flat and does not currently result in flooding during storms. The project site is located in Zone X of the Flood Insurance Rate Map, Zone X is designated to be areas determined to be outside the 500-year floodplain. Storm drainage components recommended by the Hydrology Study (Appendix F-1) would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies rates that are similar to or less than pre-development conditions. On-site drainage facilities and off-site drainage connections would be designed to collect and convey runoff from 100-year storm events.
Goal S-3: Minimize injury, loss of life, and damage to property results from structure or wildland fire hazards.	**Consistent.** The project site is not located within or adjacent to a State Responsibility Area or Local Responsibility Area Very High Fire Hazard Severity Zone (CAL FIRE 2009). The existing project site is an undeveloped lot that is relatively flat and shows signs of previous disturbance. The project would not include associated infrastructure that may exacerbate fire risk. Additionally, the project would be required to comply with all applicable state and local fire codes, including compliance with the California Fire Code and the San Marcos Fire

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	Department, which require a design that affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, Section 503.1 through 503.4 of the California Fire Code); an adequate number of emergency rated entrances to the community (Appendix D, Section D106 of the California Fire Code); and entryway gate access for first responders (Chapter 5 of the California Fire Code, Section 503.6).
Goal S-4: Protect life, structures, and the environment from the harmful effects of hazardous materials and waste.	**Consistent.** Construction of the project would entail transport, use, or disposal of potentially hazardous materials including, but not limited to diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, human waste, and chemical toilets. The project would be required to comply with all standards required through federal, state, county, and municipal regulations, in addition to project-specific plan review by the City, which would ensure potential impacts related to hazardous materials would not be significant. Project operation would support the expansion of the existing operations of Hughes Circuits Inc., located adjacent to the project site to the south. Existing operations of Hughes Circuits Inc., adjacent to the site conducts PCB fabrication and has a permit to discharge pretreated industrial wastewater. This operation would not be conducted in the new proposed building; only assembly would occur under project operation, and assembly does not generate any hazardous waste.
Goal S-5: Establish and maintain an effective emergency response program to respond to disasters and maintain continuity-of-life support functions during an emergency.	**Consistent.** According to the General Plan Safety Element, the San Marcos Emergency Operations Plan governs the operations of the City during a disaster. This plan addresses response to moderate evacuation scenarios, including the identification of evacuation points and general routes (City of San Marcos 2012b). The project would be required to adhere to standards contained within the San Marcos Emergency Operations Plan. The project would not impact any roadway or staging areas that are identified in any emergency planning documents and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
Goal S-6: Provide neighborhood safety through effective law enforcement.	**Consistent**. Implementation of the project would be expected to increase the frequency of emergency and non-emergency calls to the Sherriff's Department. However, over 100 deputies, volunteers, and professional staff serve the

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	residents of the City. Law enforcement services include general patrol, criminal investigation, crime prevention, juvenile services, narcotics and gang investigations, communications and dispatch, and various management support services. Police units are continuously mobile, and service calls are responded to by the nearest available mobile unit. At the San Marcos Station, patrol deputies are assigned to a geographical "beat" area, allowing deputies to become familiar with citizens and problems within their "beats" (SDCSD n.d.). Accordingly, service ratios and response times are anticipated to remain adequate with development of the project. As such, the project is not expected to affect police protection such that new or physically altered governmental facilities are needed.
Goal S-7: Comply with the McClellan-Palomar Airport Land Use Compatibility Plan.	**Consistent.** The project site is located within McClellan-Palomar Airport Influence Areas Review Area 2. The influence area is regulated by the Airport Land Use Commission, which regulates land uses in the area to be compatible with airport-related noise, safety, airspace protection, and over-flight factors through review of development proposals within the airport influence area. Review Area 2 consists of limits on heights of structures in areas of high terrain. The project would be consistent with the City's land use designation for the project site and would not conflict with the McClellan-Palomar Airport Land Use Compatibility Plan. The project site would not be characterized as an area of high terrain, defined as a maximum height of 795 feet above mean sea level or as in an area of Terrain Penetration to Airspace Surfaces. The height and density of the project would be consistent with the existing surrounding development.
Noise Element	
Goal N-1: Promote a pattern of land uses compatible with current and future noise levels.	**Consistent.** The project site is surrounded by industrial and mixed-commercial uses to the north and south. Noise generated by the project would be similar to that of existing land uses in the vicinity.
Goal N-2: Control transportation-related noise from traffic, rail, and aviation sources near noise sensitive land uses.	**Consistent.** The nearest noise-sensitive receivers are approximately 500 feet west-southwest of the project and represented by multi-family homes along Beverly Way in the Lake Park Terrace community that is zoned Residential R-3-10. As described in Section 3.11, Noise, of this EIR, the addition of traffic to the roadway network as a result of the project would result in a Community Noise Equivalent Level increase of less than 3 decibels,

Table 3.10-2
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Applicable General Plan Goals	Project Consistency with Policy
	which is below the discernible level of change for the average healthy human ear. Therefore, a less than significant impact would occur related to operational traffic noise. The project would not conflict with this City regulation or General Plan policy for purposes of evaluating the project's land use/planning impacts.
Goal N-3: Control non-transportation-related noise from commercial, industrial, construction, and other sources on noise sensitive land uses.	**Consistent.** As described in response to Goal N-2, the nearest noise-sensitive receivers are approximately 500 feet west-southwest of the project and represented by multi-family homes along Beverly Way in the Lake Park Terrace community that is zoned Residential R-3-10. The Noise Technical Report prepared for the project determined that stationary project operational noise would result in less than significant impacts to nearby receptors (please see Section 3.11 of the EIR).

As shown in Table 3.10-2, the project would not result in a significant environmental impact due to a conflict with applicable Land Use Element goals in the City's General Plan. Land Use Element goals not referenced above, including LU-4, LU-6, LU-9 through LU-13, LU-15 and LU-16 are not relevant to this discussion as they do not apply to individual projects or mitigating environmental effects. Instead, these goals pertain to overall goals of the City related to education, business, and provision of community facilities and infrastructure. Project implementation would not impede the City's ability to achieve these goals.

2050 Regional Transportation Plan/Sustainable Communities Strategy

SANDAG's 2050 RTP/SCS outlines projects for rail and bus services, highways, local streets, bicycling, and walking, movement of goods, as well as systems and demand management. The 2050 RTP/SCS presents a transportation system designed to maximize transit enhancements, integrate biking and walking elements, and promote programs to reduce demand and increase efficiency. The project would not conflict with any programs, plans, ordinances and policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Additionally, the project would be consistent with the existing zoning and land use designations. Thus, the project would not increase land use intensities as provided in the RTP/SCS and would therefore not result in environmental impacts due to inconsistency with this plan.

For the CEQA transportation vehicle miles traveled (VMT) analysis, the project's VMT per employee was obtained from the SANDAG VMT screening maps. Per the City's Traffic Impact Analysis Guidelines, an

employee project is determined to have a significant impact if the project generates VMT per employee greater than 85% of the regional average. The regional average VMT was determined using the SANDAG Series 14 ABM2+/2021 RP Year 2016 Base model. The project is anticipated to generate a VMT per employee of 16.80 miles, which exceeds the significance threshold of 16.07 miles. Therefore, the project would have a significant VMT impact and mitigation measures are required to reduce the VMT per employee. However, even with implementation of mitigation outlined in the Traffic Impact Analysis (Appendix I to this EIR), and Section 3.15, Transportation, of this EIR, proposed mitigation measures would not reduce the VMT per employee to less than significant levels, and impacts would be significant and unavoidable.

Multiple Habitat Conservation Program

As described under Section 3.10.2, Regulatory Setting, above, the MHCP is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County (SANDAG 2003). As described throughout Section 3.3, Biological Resources, of this EIR, project implementation would result in potentially significant impacts to biological resources. However, compliance with existing regulations and implementation of MM-BIO-1a through MM-BIO-12 outlined in Section 3.3 would ensure that the project would not conflict with the MHCP or draft San Marcos Subarea Plan, or other applicable regulations related to biological resources. Implementation of proposed mitigation, and City review of development plans for the project site would ensure impacts to biological resources would be less than significant.

San Marcos Municipal Code Zoning Ordinance, Title 20

As described above, the project site is zoned for Light Industrial uses, which would be consistent with the project.

Based on the considerations outlined above, the project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, project impacts related to land use and planning are determined to be **less than significant**.

3.10.5 Cumulative Impact Analysis

As described in Section 3.10.3, Thresholds of Significance, above, the project would be consistent the City's General Plan land use designation, zoning, and the goals of the City's General Plan. In addition to the City's General Plan, the project would also be consistent with the City's Municipal Code, SANDAG's 2050 RTP/SCS, and applicable plans and polices described in the regulatory setting sections throughout Chapter 3, Environmental Analysis.

All cumulative projects would be subject to similar criteria as the project, which would ensure compliance with existing applicable land use plans with jurisdiction over the project area. Any

cumulative projects would be required to show that proposed uses would not result in significant environmental impacts due to a conflict with applicable policies in a similar way as the project. Since all current and future projects would be analyzed for compatibility and compliance with land use regulations prior to approval, cumulative impacts related to land use and planning are determined to be **less than significant**.

3.10.6 Mitigation Measures

No mitigation specific to land use and planning would be required as a result of the project. However, the project would be required to incorporate mitigation measures proposed throughout Chapter 3 of this EIR to ensure project implementation would not result in significant land use impacts.

3.10.7 Conclusion

Based on the analysis presented in Sections 3.10.4 and 3.10.5, development of the project would not result in significant impacts to land use and planning. The project would be required to incorporate technical report recommendations, design features, and mitigation measures identified throughout Chapter 3 of this EIR to ensure project implementation would not result in significant impacts or inconsistency with applicable land use plans and policies. The project would be consistent with the applicable goals and policies of the City's General Plan. As analyzed throughout Chapter 3 of this EIR, implementation of the project would not result in any significant unavoidable impacts, with the exception of impacts related to transportation, as a result of VMT. All potentially significant impacts to biological resources, cultural resources, and tribal cultural resources would be reduced to a level of less-than-significant with mitigation incorporated. Furthermore, final project plans would be subject to City review and approval. For these reasons, impacts related to land use and planning are determined to be **less than significant**.

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3.11 NOISE

This section discusses the existing noise and vibration setting of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project. This section is based on the Noise and Vibration Analysis Technical Report prepared for the project by Dudek in January 2023, which is included as Appendix G to this environmental impact report.

Table 3.11-1 summarizes the project- and cumulative-level noise impact analysis for the project.

Table 3.11-1
Noise Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#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.	Less Than Significant	Less than Significant	Less Than Significant
#2- Generation of excessive groundborne vibration or groundborne noise levels.	Less Than Significant	Less than Significant	Less Than Significant
#3 - Exposure of people residing or working in the project area to excessive noise levels, for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.	Less Than Significant	Less Than Significant	Less Than Significant

3.11.1 Existing Conditions

This section provides background on noise characteristics and vibration fundamentals, and a description of the existing noise environment associated with the project site and the surrounding area.

Noise Characteristics

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB

when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and an upward change of 10 dB is perceived as twice as loud (Caltrans 2013). A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the number of ground vehicle daily trips along a given road segment) would result in a barely perceptible change in sound level.

Sound may be described in terms of level or amplitude (measured in dB), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear.

Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise. These descriptors include the equivalent noise level over a given period (L_{eq}), the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA.

L_{eq} is a decibel quantity that represents the constant or energy-averaged value equivalent to the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement of 60 dBA would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors, which can then be compared to an established L_{eq} standard or threshold of the same duration. Another descriptor is maximum sound level (L_{max}), which is the greatest sound level measured during a designated time interval or event. The minimum sound level (L_{min}) is often called the *floor* of a measurement period.

Unlike the L_{eq}, L_{max}, and L_{min} metrics, L_{dn} and CNEL descriptors always represent 24-hour periods and differ from a 24-hour L_{eq} value because they apply a time-weighted factor designed to emphasize noise events that occur during the non-daytime hours (when speech and sleep disturbance is of more concern). *Time-weighted* refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m. to 10:00 p.m.) is penalized by adding 5 dB, and nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is longer (defined instead as 7:00 a.m. to 10:00 p.m.), thus eliminating the dB adjustment for the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 to 1 dB, and are often considered or actually defined as being essentially equivalent by many jurisdictions (Appendix G).

Vibration Fundamentals

Vibration is oscillatory movement of mass (typically a solid) over time. It is described in terms of frequency and amplitude and, unlike sound, can be expressed as displacement, velocity, or acceleration. For environmental studies, vibration is often studied as a velocity that, akin to the discussion of sound pressure levels, can also be expressed in dB as a way to cast a large range of quantities into a more convenient scale. These vibration velocity decibels (VdB) are based on the root-mean-square (RMS) of a vibration velocity signal, and often used in the context of assessing building occupant detection or annoyance towards received groundborne vibration. Potential vibration impacts to buildings, on the other hand, are usually discussed in terms of inches per second (ips) peak particle velocity (PPV). Both of these vibration velocity descriptors will be used herein to discuss predicted project-attributed groundborne vibration levels and their comparison with relevant standards.

Common sources of vibration within communities include construction activities and railroads. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities where sudden releases of subterranean energy or powerful impacts of tools on hard materials occur. Depending on their distances to a sensitive receptor, operation of large bulldozers, graders, loaded dump trucks, or other heavy construction equipment and vehicles on a construction site also have the potential to cause high vibration amplitudes. The maximum vibration level standard used by the California Department of Transportation (Caltrans) for the prevention of structural damage to typical residential buildings is 0.3 ips PPV (Caltrans 2020).

Existing Noise Environment

The project site is currently vacant and does not currently contain any sources of noise or vibration generation. However, the project site is located in an urbanized infill area, bordered by existing roadways and industrial and commercial uses. Sources of noise in the surrounding area primarily include traffic from the local roadways, including South Pacific Street.

Sound pressure level measurements were conducted near the project site on February 25, 2022, to quantify and characterize samples of the existing (a.k.a., baseline or pre-project) outdoor sound environment. Table 3.11-2 provides the location (and adjoining land use) and time at which these baseline noise level measurements were taken. The sound pressure level measurements were performed by an attending Dudek field investigator using a Rion NL-52 sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound level meter. The accuracy of the sound level meter was verified in the field using a reference sound signal (i.e., field calibrator) before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Three short-term noise level measurement locations (ST1–ST3) are depicted on Figure 3.11-1, Baseline Outdoor Ambient Sound Level Measurement Positions, and include one of each receiving land use (multifamily, public-institutional, and light industrial). Table 3.11-2 presents L_{eq}, L_{max}, and L_{min} values for these surveyed positions, which were affected by the investigator-noted acoustical contributors as follows:

- ST1 – Heating, ventilation, and air-conditioning (HVAC) equipment on nearby building, birdsong, distant aircraft, distant conversations, yelling, distant industrial, distant roadway traffic
- ST2 – Birdsong, distant aircraft, distant conversations, yelling, distant industrial, rustling leaves, backup alarms, HVAC
- ST3 – roadway traffic, birdsong, construction saw across street, distant car wash tunnel

As shown in Table 3.11-2, the measured sound levels ranged from approximately 43.1 dBA L_{eq} at ST1 to 64.0 dBA L_{eq} at ST2. Noise measurement data and photographs of the survey locations appear in Appendix A, Baseline Noise Measurement Field Data, of Appendix G. These samples of daytime L_{eq} measured at the three representative receptor positions in Table 3.11-2 can be interpreted as approximations of CNEL, since evening sound pressure level would likely be 5 dBA less, and nighttime sound pressure level would be 10 dBA less than the daytime values (FTA 2018).

Detailed noise measurement data is included as part of Appendix G to this environmental impact report.

Table 3.11-2
Measured Outdoor Ambient Sound Environment Samples

Survey Position	Location/Address	Start and End Time (hh:mm)	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)
ST1	Tennis and basketball courts near 501 Beverly Place	10:00 AM to 10:15 AM	43.1	47.7	39.3
ST2	542 S. Pacific Street (Hughes Circuits existing facility)	10:45 AM to 11:00 AM	64.0	79.7	51.4
ST3	Bradley Park baseball diamond across from 1520 Linda Vista Drive	10:30 AM to 10:45 AM	61.0	70.4	52.2

Source: Appendix G.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

Sensitive Receptors

Uses that are typically considered noise sensitive include residences, schools, hospitals, parks, and wildlife habitats. The nearest noise-sensitive receivers are approximately 500 feet west-southwest of the project and represented by multifamily homes along Beverly Way in the Lake Park Terrace community that is zoned Residential R-3-10 (City of San Marcos 2022).

3.11.2 Regulatory Setting

Federal

Occupational Safety and Health Administration

With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 Code of Federal Regulations, Section 1910.95). OSHA specifies that sustained noise that is louder than 85 dBA (8-hour time-weighted average) can be a threat to workers' hearing and if worker exposure exceeds this amount, the employer must develop and implement a monitoring program (29 Code of Federal Regulations, Section 1910.95[d][1]).

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2018) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

The same aforementioned FTA guidance manual also includes recommended groundborne vibration thresholds for building damage risk that depend on the receiving structure type and condition. By way of example, it indicates that for "non-engineered timber and masonry buildings," the criterion would be 0.2 ips PPV or 94 VdB when this value is converted to an RMS signal by a crest factor of 4 (FTA 2018). For "engineered concrete and masonry (no plaster)" buildings, the threshold is less stringent: 0.3 ips PPV or 98 VdB.

For purposes of assessing building occupant annoyance, FTA guidance suggests that residences would be "Category 2" receivers (i.e., "where people normally sleep") for which 72 VdB to 80 VdB would be an appropriate standard depending on the frequency of vibration occurrence (FTA 2018).

State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare. The California Noise Control Act seeks to provide assistance to local agencies in preparation of ordinances to control and abate noise.

California Code of Regulations

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 dBA CNEL and "conditionally acceptable" up to 70 dBA CNEL. Multiple-family residential uses are "normally acceptable" up to dBA 65 CNEL and "conditionally acceptable" up to dBA 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 dBA CNEL, as are office buildings and business, commercial, and professional uses.

California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 ips PPV (Caltrans 2020) for assessing "annoying" vibration impacts to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility, but tend to range between 0.2 ips and 0.3 ips PPV for typical residential structures (Caltrans 2020).

For office building occupants, the same Caltrans guidance manual refers to International Organization of Standardization (ISO) 2631 that indicates 0.016 ips RMS (80 VdB) would be an appropriate threshold in the context of "detection or discomfort." Converted to PPV using the FTA-recommended crest factor of 4 (FTA 2018), this value translates to 0.04 ips. A building with workshops (or similar

interior uses) would have a recommended vibration criteria of 0.08 ips PPV per the same guidance based on ISO 2631, or an RMS value of 0.032 ips (86 VdB). The Caltrans guidance manual also refers to the aforementioned FTA impact criteria for Category 3 land uses that ranges between 75 VdB and 83 VdB depending on frequency of vibration occurrence (Caltrans 2020).

Local

The following are summarized or reproduced portions of relevant City of San Marcos (City) regulations and General Plan policies.

City of San Marcos Municipal Code

The City of San Marcos Municipal Code Chapter 10.24: Noise (City of San Marcos 2017) addresses construction noise. Erection and demolition of buildings is exempt between 7:00 a.m. and 6:00 p.m. Monday through Friday and on Saturdays from 8:00 a.m. to 5:00 p.m. The Municipal Codes does not set noise limits on construction activities. Commonly, the City has utilized the County of San Diego's Noise Ordinance construction noise limit of 75 dBA (8-hour average) as received by occupied properties.

Chapter 20.300 (Site Planning and General Development Standards) of the City's Municipal Code includes noise regulations in the form of noise standards by zone (Section 20.300.070, Performance Standards). It should be noted that Municipal Code noise standards typically pertain to stationary (i.e., non-transportation-related) noise sources. The relevant portions of these noise standards are provided below:

1. Noise shall be measured with a sound-level meter that meets the standards of the American National Standards Institute (ANSI) (Section S1.4-1979, Type 1 or Type 2). Noise levels shall be measured in decibels at the property line of the receptor property, and at least five (5) feet above the ground and ten (10) feet from the nearest structure or wall. The unit of measure shall be designated as an A-weighted decibel (dBA) Leq standard. A calibration check shall be made of the instrument at the time any noise measurement is made (Ord. No. 2017-1446, 7-25-2017)
2. No person shall create or allow the creation of exterior noise that causes the noise level to exceed the noise standards established by Table 20.300-4 (shown in this report as Table 3.11-3). Increases in exterior noise levels listed in Table 20.300-4 are permitted but depend on cumulative duration of the increase within the measured hour. For instance, a 5 dB increase is allowed for up to fifteen (15) minutes within the hour, but a 10 dB increase above the limit is allowed for up to 5 cumulative minutes within that hour.
3. Use of compressors or other equipment, including vents, ducts, and conduits, but excluding window or wall-mounted air conditioners, that are located outside of the exterior walls of any building, shall be enclosed within a permanent, non-combustible, view-obscuring enclosure to ensure that the equipment does not emit noise in excess of the ANSI standards.

Table 3.11-3
City of San Marcos Exterior Noise Standards

Zone	Applicable Limit (decibels)	Time Period
Single-Family Residential (A, R-1, R-2) [1, 2]	60 50	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
Multifamily Residential (R-3) [1, 2]	65 55	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
Commercial (C, O-P, SR) [3]	65 55	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
Industrial	65 60	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.

Source: City of San Marcos 2017 (Table 20.300-4).

[1] For single-family detached dwelling units, the "exterior noise level" is defined as the noise level measured at an outdoor living area that adjoins and is on the same lot as the dwelling and that contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet; (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10% of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.

[2] For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas that are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.

[3] For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.

City of San Marcos General Plan

The Noise Element of the City of San Marcos General Plan (City of San Marcos 2012) establishes target maximum noise levels in the City. Table 7-3 in the City's Noise Element depicts "acceptable," "conditionally acceptable," and "unacceptable" transportation-related exterior noise levels for the indicated land use designations.

With respect to commercial/industrial developments like the project, the Noise Element states: "the City should consider noise generation and potential impacts to surrounding development. New development can be made compatible with the noise environment by using noise and land use compatibility standards and the Future Noise Contour Diagram (see Figure 7-2) as a guide for planning and development decisions. During the project design review process, the City can work with the project applicant to identify of potential impacts and reasonable mitigation measures. For example, the City can require an acoustical analysis for projects that will potentially generate noise that would affect sensitive receptors. These mitigation measures can include, but not be limited to, acoustically treated and/or quiet designs for furnaces, fans, motors, compressors, valves, pumps and other mechanical equipment. The City may also require limited delivery hours and/or hours of operation in order to reduce impacts to adjacent sensitive uses. In addition, all City departments must comply with state and federal OSHA standards. Any new equipment or vehicles purchased by the City will comply with local, state, and federal noise standards."

The following are applicable goals and policies from the City of San Marcos General Plan, Noise Element (City of San Marcos 2012):

- **Goal N-1:** Promote a pattern of land uses compatible with current and future noise levels.
    - **Policy N-1.1:** Address the potential for excessive noise levels when making land use planning decisions in accordance with Table 7-3 Land Use Compatibility Noise Standards.
    - **Policy N-1.2:** Ensure that acceptable noise levels are maintained near noise-sensitive uses.
    - **Policy N-1.3:** Incorporate design features into residential land use projects that can be used to shield residents from excessive noise. Design features may include, but are not limited to: berms, walls, and sound attenuating architectural design and construction methods.
    - **Policy N-1.4:** Require new development projects to provide barriers to reduce noise levels, or provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.
    - **Policy N-1.5:** Require an acoustical study for proposed developments in areas where the existing and projected noise level exceeds or would exceed the Normally Acceptable levels identified in Table 7-3.
- **Goal N-2:** Control transportation-related noise from traffic, rail, and aviation sources near noise sensitive land uses.
    - **Policy N-2.1:** Encourage only noise-compatible land uses along existing and future roadways, highways, and freeways.
    - **Policy N-2.2:** Promote coordinated site planning and traffic control measures that reduce traffic noise on noise-sensitive land uses.
    - **Policy N-2.3:** Advocate the use of alternative transportation modes such as walking, bicycling, mass transit, and non-combustible engine vehicles to reduce traffic noise.
- **Goal N-3:** Control non-transportation-related noise from commercial, industrial, construction, and other sources on noise sensitive land uses.
    - **Policy N-3.1:** When adjacent to noise sensitive receptors, require developers and contractors to employ noise reduction techniques during construction and maintenance operations.
    - **Policy N-3.2:** Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.

The following are applicable goals and policies from the City of San Marcos General Plan, Safety Element:

- **Goal S-7:** Comply with the McClellan-Palomar Airport Land Use Compatibility Plan.

- **Policy S-7.1:** Record an overflight notification document in association with the approval of any new residential land use within the AIA [Airport Influence Area] overflight notification area consistent with the ALUCP [Airport Land Use Compatibility Plan].

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10.4, the project would be consistent with the applicable goals and policies.

3.11.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to noise are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to noise would occur if the project would:

- **Threshold #1:** Result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- **Threshold #2:** Generation of excessive groundborne vibration or groundborne noise levels.
- **Threshold #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 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

In light of the above significance criteria, this analysis uses the following standards to evaluate potential noise and vibration impacts.

- Construction noise – the City has adopted the County's construction noise threshold of not exceeding 75 dBA for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at any occupied property where the noise is being received.
- Off-site project-attributed transportation noise – For purposes for this analysis, a direct roadway noise impact would be considered significant if increases in roadway traffic noise levels attributed to the project were greater than 3 dBA CNEL at an existing noise-sensitive land use.
- Off-site project-attributed stationary noise – For purposes for this analysis, a noise impact would be considered significant if noise from typical operation of heating, ventilation, and air conditioning and other electro-mechanical systems associated with the project exceeded 65 dBA hourly L_{eq} at the property line from 7:00 a.m. to 10:00 p.m., and 55 dBA hourly L_{eq} from 10:00 p.m. to 7:00 a.m.
- Construction vibration – A variety of thresholds are utilized herein for purposes of impact significance assessment:
    - Guidance from Caltrans indicates that a vibration velocity level of 0.2 ips PPV received at a structure would be considered annoying by occupants within residential buildings

(Caltrans 2020), which for purposes of this analysis would apply during normal daytime hours. For occupants of office buildings, the criterion would be 80 VdB; and for occupants of workshops (or comparable uses, such as factories), the criterion would be 86 VdB. Both of these non-residential receiving land use types presume occupants only during normal daytime business hours.

- If construction activity needed to occur during nighttime hours, such as to accommodate a concrete pour or other activity for which the City may permit at its discretion, for purposes of residential building occupant annoyance during such times (i.e., when occupants would normally be sleeping) an FTA guidance threshold of 78 VdB (or 0.033 ips PPV) would be applied.
- For typical receiving residential structures, aforementioned Caltrans guidance from Section 3.11.2, Regulatory Setting, recommends that a vibration level of 0.2 ips PPV would represent the threshold for building damage risk. For commercial and industrial buildings having more robust structure, Caltrans guidance recommends a threshold of 0.3 ips PPV.

3.11.4 Project Impact Analysis

Threshold #1: Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Short-Term Construction Noise

Construction noise and vibration are temporary phenomena, varying from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during construction would include, in part, graders, scrapers, backhoes, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 3.11-4. Usually, construction equipment operates in alternating cycles of full power and low power, which the Federal Highway Administration Roadway Construction Noise Model User's Guide (FHWA 2006) characterizes as "acoustical usage factor" (AUF) and thereby produces energy-average noise levels over time (L_{eq}) that are less than the listed maximum noise level (L_{max}). The average sound level of construction activity also depends on the amount of time that the equipment actually operates on site.

Table 3.11-4
Typical Construction Equipment Maximum Noise Levels

FHWA RCNM Equipment Type	Acoustical Usage Factor (percent)	Typical Equipment L_{max} (dBA at 50 Feet)	Typical Equipment L_{eq} (dBA at 50 Feet)
All other equipment >5 horsepower	50	85	82
Backhoe	40	78	74
Compressor (air)	40	78	74
Concrete mixer truck	40	79	75
Crane	16	81	73
Dozer	40	82	78
Generator	50	72	69
Grader	40	85	81
Man lift	20	75	68
Paver	50	77	74
Roller	20	80	73
Scraper	40	84	80
Welder / torch	40	73	69

Source: FHWA 2006.
Note: FHWA = Federal Highway Administration; RCNM = Roadway Construction Noise Model; L_{max} = maximum sound level; where L_{eq} = energy-equivalent sound level and can be calculated here with $L_{eq} = L_{max} + 10*LOG(AUF)$; dBA = A-weighted decibels.

Aggregate noise emission from project construction activities, broken down by sequential phase, was predicted at the closest distance between the project construction zone and the nearest occupied building—consistent with the City's adoption of the County of San Diego construction noise standard. In a manner comparable to the "general assessment" technique per FTA guidance (FTA 2018), and because the exact positions of on-site equipment activity vary over the course of a typical construction day, all construction equipment for a given phase were treated as emitting noise from a common origin point located at the geographic "acoustic centroid" of the project site. For purposes of this analysis, two noise source-to-receptor distance values were studied as follows:

- With respect to the existing Hughes Circuits buildings on the south side of South Pacific Street, the acoustical centroid of the project site appears to be approximately 275 feet from the nearest existing building facade.
- To the north of the project is an occupied commercial structure, apparently 345 feet from the project acoustical centroid.

A Microsoft Excel–based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (FHWA 2008) was used to estimate construction noise levels at the nearest occupied structure. (Although the Roadway Construction Noise Model was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects

are often used for other types of construction.) Input variables for the predictive modeling consist of the equipment type and number of each, the afore-mentioned acoustical usage factor, the expected duration (in hours) of on-site activity, and the distance from the receiver. Conservatively, no topographical or structural shielding was assumed in the modeling. Appendix G presents these input parameters that yield the summarized prediction results presented in Table 3.11-5.

Table 3.11-5
Predicted Construction Noise Levels per Activity Phase

Construction Phase (and Equipment Types Involved)	8-Hour L_{eq} at Nearest Existing Hughes Circuits Building (dBA)	8-Hour L_{eq} at Northern Off-Site Occupied Structure (dBA)
Site preparation (scraper, backhoe, grader)	64.8	62.6
Grading (grader, dozer, backhoe)	64.5	62.3
Building construction (crane, man-lift, generator, backhoe, welder/torch)	59.9	57.7
Architectural finishes (air compressor)	53.6	51.4
Paving (paver, roller, concrete mixer truck, backhoe, other equipment)	65.3	63.1

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

As presented in Table 3.11-5, the estimated construction noise exposure levels for each of the five expected sequential phases are not predicted to exceed 75 dBA L_{eq} over an 8-hour period at the nearest occupied properties to the north and south of the project site. The predicted construction noise levels ranging from 54 to 65 dBA L_{eq} over an 8-hour period at the nearest Hughes Circuits existing building façade are also comparable to (or less than) the measured baseline outdoor sound level of 64 dBA at survey position "ST2" shown in Table 3.11-2. For these reasons, temporary construction-related noise impacts would be considered **less than significant**.

Long-Term Operational Noise

Increase of Off-Site Roadway Traffic Noise

The project would result in the creation of additional vehicle trips on local roadways (i.e., Linda Vista Drive and South Pacific Street), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. Appendix C, Traffic Noise Modeling Input and Output, of Appendix G contains a set of Federal Highway Administration Traffic Noise Model (version 2.5) (FHWA 2004) input/output spreadsheets showing studied traffic volume data (average daily traffic expressed as vehicles per hour) for the existing and existing-plus-project modeled scenarios. Information used in the Traffic Noise Model included the roadway geometry and posted traffic speeds.

According to acoustical principles, the increase in traffic noise level relates directly to the increase in volumes by the following expression: $10*LOG(V_f/V_e)$, where V_f is the future traffic volume, V_e is the

existing traffic volume, and vehicle speeds and proportion of vehicle types are essentially unchanged. The project would therefore have to roughly double the traffic volumes on nearby studied roadway segments in order to increase traffic noise by 3 dB, which would be considered a barely perceptible increase (Caltrans 2013).

Traffic noise levels were modeled at the same geographic positions ST1, ST2, and ST3 as shown in Figure 3.11-1. The receivers were modeled to be 5 feet above the local ground elevation. The traffic noise model results are summarized in Table 3.11-6 and represented by CNEL values. The predicted CNEL values for existing conditions shown in Table 3.11-6 for ST1 and ST3 are each within +/-3 dB of the measurement-based CNEL (approximated by the daytime L_{eq} value samples, per FTA guidance [FTA 2018]) listed in Table 3.11-2, which suggests good agreement between empirical data and the estimation model, since a 3 dB difference is barely perceptible to human hearing outdoors. Validated by this value agreement for existing conditions, the same Traffic Noise Model was used to predict the future "existing plus project" traffic noise level associated with the studied project-attributed changes to local roadway traffic.

Table 3.11-6
Off-Site Roadway Traffic Noise Modeling Results

Modeled Receiver Tag (and Location Description)	Existing (2022) Noise Level (dBA CNEL)	Existing Plus Project Noise Level (dBA CNEL)	Project-Related Noise Level Increase (dB)
ST1 (Tennis and basketball courts near 501 Beverly Place)	44.1	44.4	0.3
ST2 (542 S. Pacific Street [Hughes Circuits existing facility])	57.1	57.8	0.7
ST3 (Bradley Park baseball diamond across from 1520 Linda Vista Drive)	64.0	64.0	< 0.1

Notes: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.

Table 3.11-6 shows that at all three listed representative receivers, with particular attention to ST1 that adjoins noise-sensitive residential receptors, the addition of project traffic to the local roadway network would result in a CNEL increase of less than 1 dB, which is below the discernible level of change for the average healthy human ear. Thus, a **less-than-significant impact** is expected for project-related off-site traffic noise increases affecting existing residences in the vicinity.

Stationary Project Operations Noise

The completion of a new light industrial building on the project site will add a variety of noise-producing mechanical equipment that include those presented and discussed in the following paragraphs. Most of these noise-producing equipment or sound sources would be considered stationary, or limited in mobility to a defined area. Using a Microsoft Excel–based outdoor sound propagation prediction

model, project-attributed operational noise at nearby community receptors was predicted on the assumption that noise-producing equipment are point-type sources with point-source geometric divergence (i.e., 6 dB noise reduction per doubling of distance) that conservatively ignores acoustical absorption from atmospheric and ground surface effects. Please see Appendix G for quantitative details of the modeling inputs.

The project building would be served by air-conditioning equipment that includes outdoor-exposed packaged air-handling units or—at a minimum—air-cooled condensers that provide the expected cooling demand (expressed as refrigeration "tonnage") for the building. For a building of 67,410 total square feet that could be described as largely having a "factory-assembly area" intended interior usage, this cooling demand can be estimated with industry check figures (Loren Cook 1999). Based on the available architect plans of the project, the roof deck is expected to be 43 feet above grade and would feature a typical parapet (assumed to be 3 feet in height, measured from its top edge to the roof deck). The roof plan depicts two potential air-cooled condenser equipment locations, which this analysis will treat as two point-source positions for rooftop noise emission behind the aforesaid parapet.

The operation noise model also includes noise emission from the idling engine of a single truck parked along the north façade of the project building. For this assessment, the analysis conservatively assumes that over the course of an hour on site, an average of one truck would be present and idling for up to 5 minutes as allowed by California emission regulations. This noise emission contributor, described as a point-type source, was also considered a point-type source.

Sound propagation from these two rooftop HVAC noise emission sources and the idling truck engine near grade was predictively modeled with a three-dimensional technique based on pertinent ISO 9613-2 algorithms and reference data. Assuming all the HVAC equipment is operating simultaneously for a minimum period of 1 hour, the predicted noise levels at each of three afore-studied locations are as follows: ST1 = 32.4 dBA, ST2 = 42.5 dBA, and ST3 = 33.1 dBA. These predicted levels are all less than the City's exterior noise limits per Table 3.11-3. Figure 3.11-2 displays predicted operation noise levels across a horizontal plane 5 feet above grade, and visually helps support the assertion of compliance with City standards. Hence, under such conditions, predicted project stationary noise source emission would result in a **less-than-significant noise impact**.

Threshold #2: Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips generates a human response of annoyance. For context,

heavier pieces of construction equipment, such as a bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 ips or less at a reference distance of 25 feet (FTA 2018).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for a vibratory roller operating on site and as close as the southern project boundary (i.e., 65 feet from the nearest occupied building) when involved in the paving phase of project construction, the estimated vibration velocity level would be 0.05 ips PPV per the equation as follows (FTA 2018):

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5} = 0.05 = 0.21 * (25/65)^{1.5}$$

In the above equation, PPV_{rcvr} is the predicted vibration velocity at the receiver position, PPV_{ref} is the reference value at 25 feet from the vibration source (the roller), and D is the actual horizontal distance to the receiver. For purposes of assessing building damage risk, this estimated 0.05 ips PPV at the nearest commercial structure would be less than the 0.3 ips PPV limit for commercial buildings as presented in the preceding Section 3.11.3, Thresholds of Significance. Because the predicted vibration level at 65 feet is less than this guidance criterion, the risk of vibration damage to such nearby structures is considered **less than significant**.

To assess human annoyance for occupants of these nearest buildings, in which office functions are assumed, this 0.05 ips PPV value can be converted to an RMS-based L_v decibel value (VdB) per the following expression:

$$L_v = 20 * LOG(PPV_{rcvr}/(4*V_{ref})) = 20 * LOG(0.05/0.000004) = 82 \text{ VdB}$$

In the above expression, V_{ref} is reference vibration amplitude of 1 micro-inch per second, and it is multiplied by a "crest factor" of 4 per FTA guidance (FTA 2018). The calculated RMS vibration velocity of 82 VdB is what impinges upon the foundation of the receiving building, after being attenuated via groundborne propagation through intervening soils and rock strata as estimated by the previous expression to calculate PPV exposure at the receptor distance from the source. Then, at the interface of the receiving building foundation, there is an additional "coupling loss" relating to further energy dissipation as the vibration transfers to the mass and form of the building foundation and connected structure. According to FTA guidance, this coupling loss is -5 VdB for wood-framed houses, -7 VdB for 1-to-2-story masonry structures, and -10 dB for 3-to-4-story masonry buildings (FTA 2018). Hence, with the receiving commercial building to the south being a representative of at least this one- to two-story masonry type, the predicted vibration velocity exposure to office occupants would only be 75 VdB (i.e., the difference of 7 from 82) and thus compliant with the afore-stated Caltrans-based guidance threshold of 80 VdB per Section 3.11.3. Therefore, the potential impact on nearby commercial building occupants would be considered **less than significant**.

Residential buildings are much further from the project site than the buildings on these nearby commercial land uses, so their exposures to potential groundborne project-attributed construction vibration would be much less than the 0.05 ips PPV and 82 VdB values discussed in the preceding paragraphs. For example, the closest multifamily residences near ST1 are over 450 feet from the project boundary, which means the calculated PPV at this distance from a vibratory roller would 0.003 ips and yield only 57 VdB. Hence, daytime (or potential nighttime) vibration impacts at nearest receiving off-site residential buildings and their occupants would be **less than significant**.

Once operational, the project would not be expected to feature major producers of groundborne vibration. Anticipated mechanical systems like heating, ventilation, and air-conditioning units are designed and manufactured to feature rotating (fans, motors) and reciprocating (compressors) components that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, potential vibration impacts due to project operation would be **less than significant**.

Threshold #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, would the project expose people residing or working in the project area to excessive noise levels?

There are no private airstrips within the vicinity of the project site. The closest airport to the project site is the McClellan Palomar Airport, approximately 4 miles west of the site. According to the Comprehensive Land Use for McClellan-Palomar Airport (SDCRAA 2011) the project site is not located within a noise exposure contour and would therefore not expose people residing or working in the project area to excessive noise levels. Impacts from aviation overflight noise exposure would be **less than significant**.

3.11.5 Cumulative Impact Analysis

Noise levels tend to diminish quickly with distance from a source. Therefore, the geographic scope of the analysis of cumulative impacts related to noise is limited to locations immediately surrounding and in close proximity to the project site. As described in Section 3.11.4, Project Impact Analysis, above, project implementation would result in less than significant noise impacts. No mitigation is required.

Cumulative traffic noise impact could occur in combination with the project and cumulative projects during construction if traffic noise exceeded City standards. However, it is likely that any construction traffic, included as related to export/import haul trucks associated with cumulative projects, would be distributed among different roadways based on the locations of cumulative projects. Similar to the project, cumulative projects would include construction and operation noise reduction measures to reduce any potentially significant noise impacts to a level below significance, where feasible. Development plans for cumulative projects would be required to outline mitigation measures, design features, and required regulatory compliance. Implementation of project-specific mitigation and design features would ensure cumulative noise impacts would remain at a **less-than-significant** level.

3.11.6 Mitigation Measures

As analyzed in Section 3.11.4 above, potential noise impacts during construction and operation of the project would be less than significant. No mitigation is required.

3.11.7 Conclusion

As discussed above, potential noise impacts during construction would be less than significant. Noise impacts due to operation of the project would be less than significant and no further mitigation is required. Project impacts related to noise would be **less than significant.**

SOURCE: SANGIS 2019

DUDEK

0 250 500 Feet

FIGURE 3.11-1

Baseline Outdoor Ambient Sound Level Measurement Positions

Hughes Circuits Project Environmental Impact Report

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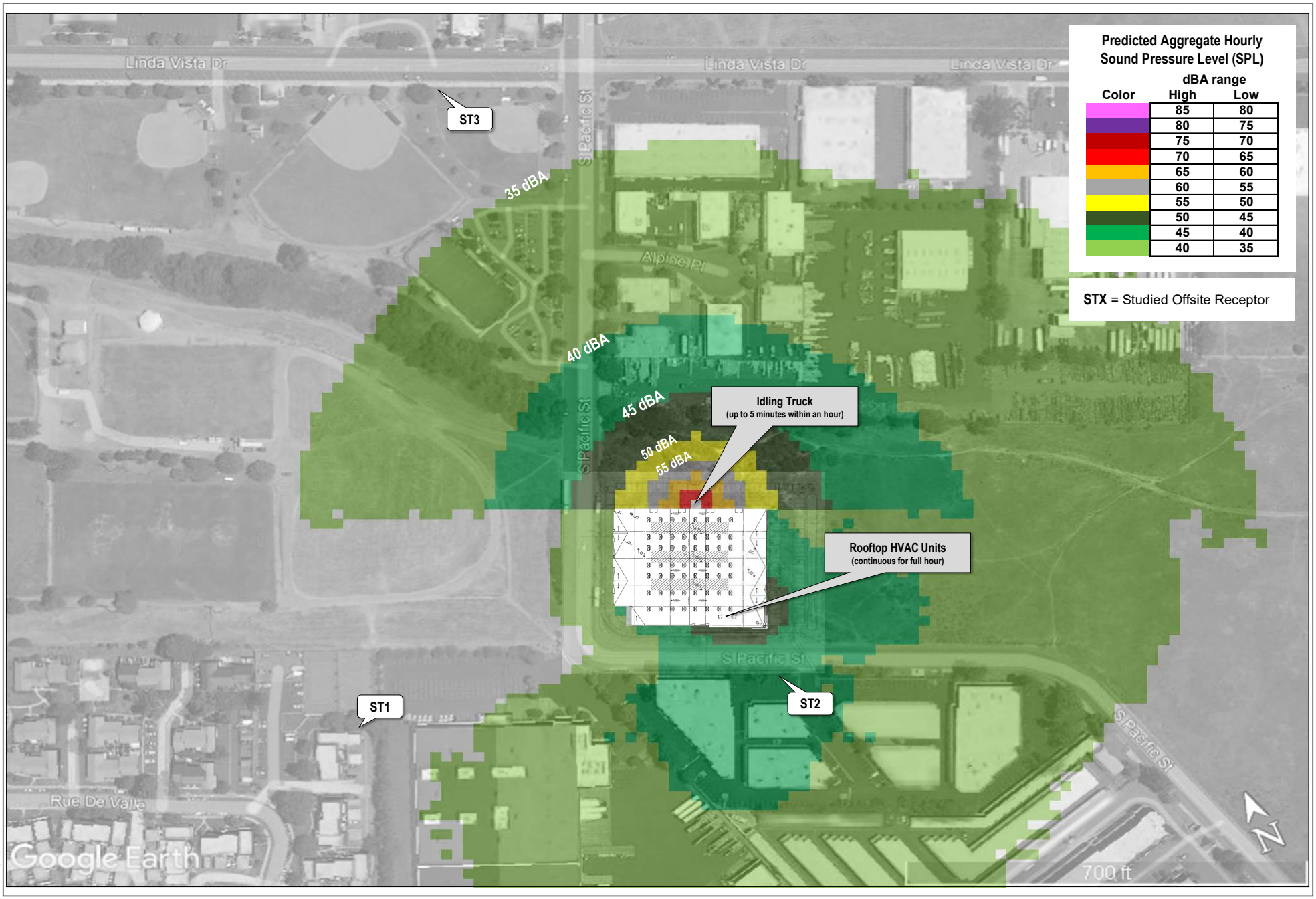

FIGURE 3.11-2

Predicted Stationary Source Operations Noise – with Idling Truck

Hughes Circuits Project Environmental Impact Report

DUDEK

0 189 378 Feet

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3.12 POPULATION AND HOUSING

This section describes the existing setting of the proposed Hughes Circuits Project (project), identifies associated regulatory requirements, and evaluates potential impacts related to population and housing resulting from the project. This section considers population and housing characteristics in the area and discusses project consistency with regional growth projections.

Table 3.12-1 provides a summary of the project- and cumulative-level population and housing impacts by threshold.

Table 3.12-1
Population and Housing Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#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).	Less than Significant	Less than Significant	Less than Significant
#2 - Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No Impact	No Impact	No Impact

3.12.1 Existing Conditions

This section provides background information regarding population and housing forecasts for the City of San Marcos (City) based on demographic information from the San Diego Association of Governments (SANDAG), and the City's Housing Element (2021–2029), adopted July 13, 2021.

Currently, the project site is undeveloped, and does not support residential uses as it is zoned for industrial uses. During site surveys, a homeless encampment was observed in the bushes on the northwestern portion of the project site.

Population

According to the City of San Marcos General Plan Housing Element, San Marcos has been one of the fastest growing cities in the San Diego region since the 1980s (City of San Marcos 2021). As of 2020, the City of San Marcos has an estimated population of 97,209, an increase of approximately 16% since 2010 (City of San Marcos 2021). Based on growth projections provided by the Series 14: 2050 Regional Growth Forecast prepared by SANDAG, it is estimated that the City's population growth will reach 104,365 persons by 2035, and 119,098 persons by 2050 (SANDAG 2021).

The City's growth has outpaced Countywide growth, and the City's population is anticipated to increase upon buildout of lands within the City limits, particularly in areas around transit facilities and near California State University San Marcos (City of San Marcos 2021).

Housing

As of 2022, the City of San Marcos had 32,000 housing units. The housing stock is composed of approximately 58.69% single-family detached and attached units, and approximately 31.16% multifamily units (DOF 2022). Approximately 10.15% of the housing stock as of 2022 consisted of mobile homes (DOF 2022). Based on the Series 14: 2050 Regional Growth Forecast, the City is expected to have 36,113 housing units by 2035, and 42,050 housing units by 2050 (SANDAG 2021). According to the Series 14: 2050 Regional Growth Forecast, between 2016 and 2050 the City of San Marcos is expected to see an increase of 26.4% in housing stock. In comparison, the region is expected to grow by 13.2% between 2016 and 2050.

3.12.2 Regulatory Setting

This section describes the local regulatory setting as it relates to population and housing for the project.

State

California Planning and Zoning Law

The legal framework within which California counties and cities exercise local planning and land use functions is provided in the California Planning and Zoning Law (Sections 65000 through 66499.58 of the California Government Code). Under that law, each county and city must adopt a comprehensive, long-term general plan. The law gives counties and cities wide latitude in how a jurisdiction may create a general plan, but there are fundamental requirements that must be met. The requirements include seven mandatory elements described in the Government Code. Each element must contain text and descriptions setting forth objectives, principles, standards, policies, and plan proposals; diagrams and maps that incorporate data and analysis; and implementation measures.

Once the general plan of a county or city is adopted, it should be construed as a dynamic document, for which adaptability is a key component. Each jurisdiction frequently reviews its general plan for consistency and to ensure it addresses growth-related issues in a comprehensive manner. State law allows up to four general plan amendments per general plan element per year, so each jurisdiction can make changes as justified.

California Building Standards Code

In 2001, California consolidated the Uniform Building, Plumbing, Electrical, and Mechanical codes into the California Building Standards Code, which is contained in Title 24 of the California Code of Regulations. The California Building Standards Code contains 11 parts: Electrical Code, Plumbing

Code, Administrative Code, Mechanical Code, Energy Code, Residential Building Code, Historical Building Code, Fire Code, Existing Building Code, Green Building Standards Code, and the Reference Standards Code. These codes promote public health and safety and ensure that safe and decent housing is constructed in the County's unincorporated areas.

Senate Bill 375

Senate Bill 375 (codified in the Government Code and Public Resources Code), took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the greenhouse gas reduction goals established in Assembly Bill 32. Senate Bill 375 requires metropolitan planning organizations to incorporate a Sustainable Communities Strategy (SCS) in their Regional Transportation Plans (RTPs) that will achieve greenhouse gas emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.

Regional Housing Needs Assessment

As discussed above, a Regional Housing Needs Assessment (RHNA) is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods.

Communities use the RHNA in land use planning, prioritizing local resource allocation, and in deciding how to address identified existing and future housing needs resulting from population, employment, and household growth. The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promotes transportation mobility, and addresses social equity, fair share housing needs.

Local

San Diego Association of Governments

SANDAG is a public agency, composed of 18 cities and the County of San Diego, which builds strategic plans guiding the San Diego region in land use, growth, economics, and the environment. SANDAG also provides population and housing estimates for the region, which are based, in part, on local jurisdictional planning data and inform regional planning.

The SANDAG Regional Comprehensive Plan, adopted in 2004, provides a long-term planning framework for the San Diego region (SANDAG 2004). The Regional Comprehensive Plan identified smart growth and sustainable development as important strategies to direct the region's future growth toward compact,

mixed-use development in urbanized communities that already have existing and planned infrastructure, and then connecting those communities with a variety of transportation choices.

In 2011, SANDAG approved the 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) (SANDAG 2011). This approval marked the first time SANDAG's RTP included a sustainable communities strategy, consistent with the Sustainable Communities and Climate Protection Act of 2008, also known as Senate Bill 375. This RTP/SCS provided a blueprint to improve mobility, preserve open space, and create communities, all with transportation choices to reduce greenhouse gas emissions and meet specific targets set by the California Air Resources Board (CARB) as required by the 2008 Sustainable Communities and Climate Protection Act. In 2010, CARB established targets for each region in California governed by a metropolitan planning organization. SANDAG is the metropolitan planning organization for the San Diego region.

The SANDAG target, as set by CARB, is to reduce the region's per-capita emissions of greenhouse gas emissions from cars and light-duty trucks by 7% by 2020, compared with a 2005 baseline. By 2035, the target is a 13% per capita reduction. There is no target set beyond 2035. To achieve the 2020 and 2035 targets, SANDAG and other metropolitan planning organizations are required to develop an SCS as an element of its RTP. The SANDAG SCS integrates land use and transportation plans to achieve reductions in greenhouse gas emissions and meet the CARB-required targets.

San Diego Forward: The Regional Plan

SANDAG's San Diego Forward: The Regional Plan (Regional Plan) combines the region's two most important existing planning documents—the Regional Comprehensive Plan and the RTP/SCS. The Regional Comprehensive Plan, adopted in 2004, laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covered eight policy areas, including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity. These policy areas were addressed in the 2050 RTP/SCS and are now fully integrated into the Regional Plan.

The SANDAG Board of Directors adopted the 2021 Regional Plan on December 10, 2021. The 2021 Regional Plan is a 30-year plan that considers growth, movement and residential location around the region. The 2021 Regional Plan combines the RTP, SCS, and Regional Comprehensive Plan. As such, the 2021 Regional Plan must comply with specific state and feral mandates. These include an SCS, per California Senate Bill 375, that achieves greenhouse gas emissions reduction targets set by the California Air Resources Board, compliance with federal civil rights requirements (Title VI); environmental justice considerations; air quality conformity; and public participation (SANDAG 2021).

Regional Growth Forecast

SANDAG estimates future population, housing, land use, and economic growth throughout San Diego County and its comprising cities, including the City of San Marcos. SANDAG accepted the Series 14: 2050 Regional Growth Forecast in 2021 (SANDAG 2021). This forecast serves as the foundation for San Diego Forward: The Regional Plan and other planning documents across the region. SANDAG growth projections for the region and for the City of San Marcos are outlined in Table 3.12-2, Forecasted Growth in the San Diego Region and the City of San Marcos. The City of San Marcos is expected to experience a higher growth rate for population, housing, and employment when compared to the entire region of San Diego. The 2050 Regional Growth Forecast is not intended to be an exact formula utilized to determine growth in the region and comprising jurisdictions; rather, it should be used as a starting point for regional planning.

Table 3.12-2
Forecasted Growth for the San Diego Region and the City of San Marcos

Jurisdiction	Year				Change 2016–2050	
	2016	*2025*	*2035*	*2050*	*Numeric*	*Percent*
Population						
San Diego Regional	3,309,510	3,470,838	3,620,329	3,746,054	436,544	13.2
City of San Marcos	94,258	101,707	104,365	119,098	24,840	26.4
Housing						
San Diego Regional	1,190,555	1,288,207	1,409,853	1,471,286	280,731	23.6
City of San Marcos	30,539	34,250	36,113	42,050	11,511	37.7
Employment						
San Diego Regional	1,629,948	1,788,970	1,935,565	2,094,017	464,069	28.5
City of San Marcos	41,096	45,786	51,523	63,031	21,935	53.4

Source: SANDAG 2021.

Regional Housing Needs Assessment

The Regional Housing Needs Assessment 6th Housing Element Cycle, 2021–2029, was approved on July 10, 2020 (SANDAG 2020). Based on a methodology that weighs a number of factors (i.e., projected population growth, employment, commute patterns, and available sites), SANDAG determined quantifiable needs for housing units in the region according to various income categories. In its final RHNA figures, SANDAG allocated 3,116 housing units to the San Marcos area for the 2021–2029 Housing Element Cycle, including 1,258 housing units for very low- and low-income households (SANDAG 2020).

Local

City of San Marcos General Plan

The City's Housing Element identifies goals and associated policies to provide a basis for housing and growth projections in the City for the 2021–2029 planning period. The following goals and policies from the Housing Element of the City of San Marcos General Plan pertain to population and housing (City of San Marcos 2021):

- **Goal H-1:** Provide a broad range of housing opportunities with emphasis on providing housing which meets the special needs of the community.
    - **Policy 1.1:** Designate land for a variety of residential densities sufficient to meet the housing needs for a variety of household sizes and income levels, with higher densities being focused in the vicinity of transit stops and in proximity to significant concentrations of employment opportunities.
- **Goal H-2:** Protect, encourage, and provide housing opportunities for persons of lower and moderate incomes.
- **Goal H-4:** Reduce or remove governmental and nongovernmental constraints to the development, improvement, and maintenance of housing where feasible and legally permissible.
    - **Policy 4.4:** Balance the need to protect and preserve the natural environment with the need to provide housing and employment opportunities.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning, of this environmental impact report (EIR). As detailed in Section 3.10.4, the project is consistent with the applicable goals and policies pertaining to population and housing.

3.12.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to population and housing are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact would occur if the project would:

- **Threshold #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).
- **Threshold #2:** Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.12.4 Project Impact Analysis

Threshold #1: Would the project 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)?

As described in Chapter 2, Project Description, the project consists of development of a 67,410-square-foot light industrial building on approximately 2.61 acres of the 10.46-acre project site. The project would require a temporary construction workforce and a permanent operational workforce, both of which could potentially induce population growth in the project area. The temporary workforce would be needed to construct the light industrial building. The number of construction workers needed during any given period would largely depend on the specific stage of construction, but would likely range from a dozen to several dozen workers on a daily basis.

The project is proposed to support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. As such, the project's temporary and permanent employment requirements could likely be met by the City's existing labor force without people needing to relocate into the project region, and the project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans.

As discussed above, the City of San Marcos is forecasted to grow from 94,258 persons in 2016 to 119,098 persons in 2050, which is a population increase of 24,840 (SANDAG 2021). As such, the project-related increase of approximately 60 employees would represent a nominal percentage of the City's projected future population.

The City's Growth Management Ordinance (Chapter 20.315 of the Municipal Code) was adopted to implement the General Plan and to manage the projected growth of residential, industrial, and commercial development. The ordinance requires that all new development bear the cost of providing the public facilities and services needed to effectively serve the new development. The Growth Management Ordinance does not limit density of development or cap the number of residential building permits that can be issued within the planning period. To the contrary, the ordinance will ensure that public facilities and services are, or will be, provided to serve future residential development anticipated by the RHNA.

As the project would be required to comply with City regulations and applicable fees outlined above, impacts associated with the project are determined to be **less than significant**.

Thresholds #2: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project site is currently vacant and undeveloped. Although a homeless encampment is present on the project site, it cannot be determined how many individuals would be located on the project site at the time of project construction due to the transient nature of these individuals. Since there is no existing housing on the project site, it is not necessary to construct replacement housing elsewhere. Implementation of the project would not displace any existing housing or people or necessitate the construction of replacement housing elsewhere. Therefore, there would be **no impact.**

3.12.5 Cumulative Impact Analysis

Cumulative projects in addition to the project could result in both direct and indirect cumulative impacts to population and housing in the City. Projects that include residential development could result in direct impacts to population growth in the City, and non-residential projects located on undeveloped land could result in indirect growth due to the need for new roads and/or utilities, or expansion of existing infrastructure.

Cumulative projects outlined in Chapter 2 of this EIR include residential, non-residential, and mixed-use development projects. The introduction of a new population is not, in and of itself, a significant impact. As with a project-level analysis, the significance of a cumulative population impact is determined by whether the population growth resulting from the combined cumulative projects would be considered to induce substantial unplanned population growth in the area. Similar to the City, the neighboring jurisdictions manage population growth and housing stock to meet their RHNA requirements. All cumulative projects would be required to prepare an environmental document addressing potential impacts to population and housing, and would be required to comply with the City's General Plan Housing Element, City Ordinances related to housing, and would be subject to applicable development fees. Compliance with City regulations and fees would ensure that cumulative impacts related to population and housing are adequately addressed.

As discussed above, the project would not generate a permanent increase in population within the project areas, and the approximately 60 employees generated by the project is consistent with anticipated future employment projections within the City. Overall, the project would not induce substantial unplanned population growth in the City, and would have a **less than significant** cumulative impact to population and housing.

3.12.6 Mitigation Measures

No significant impacts are identified; therefore, no mitigation measures are required.

3.12.7 Conclusion

The project is proposed to support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. As such, the project's temporary and permanent employment requirements could likely be met by the City's existing labor force without people needing to relocate into the project region, and the project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans.

The project would be required to comply with goals and policies outlined in the City's Housing Element and applicable City regulations and applicable fees as outlined above. Compliance with applicable City regulations would ensure project impacts related to the increase in population and housing would be **less than significant**.

Since the project site is located on undeveloped land, implementation of the project would not displace any existing housing or people in a manner that would necessitate the construction of replacement housing elsewhere. Therefore, there would be **no impact**.

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3.13 PUBLIC SERVICES

This section describes the existing setting of the Hughes Circuits Project (project) site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to public services, including fire protection services, police protection services, schools, parks, and libraries. This section incorporates information from the Fire and Medical Response Analysis prepared for the project (by Dudek in January 2023), and is included as Appendix H to this environmental impact report (EIR).

Table 3.13-1, Public Services Summary of Impacts, summarizes the project- and cumulative-level public services analysis impact, by thresholds of significance.

Table 3.13-1
Public Services Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for:			
Fire protection services	Less than Significant	Less than Significant	Less than Significant
Police protection services	Less than Significant	Less than Significant	Less than Significant
Schools	No Impact	No Impact	No Impact
Parks	No Impact	No Impact	No Impact
Other public facilities	No Impact	No Impact	No Impact

3.13.1 Existing Conditions

This section details the existing service providers and resources related to fire protection, police protection, schools, parks, and libraries.

Fire Protection

The project site is located within the San Marcos Fire Protection District boundary, which covers an area of 33 square miles and serves a population of approximately 95,000 residents (City of San Marcos 2022a). The San Marcos Fire Department (SMFD) would provide fire protection and emergency medical services to the project site. While the San Marcos Fire Protection District provides primary service to the City of San Marcos (City), the San Marcos Fire Protection District also has an existing automatic mutual aid fire agreement in place with the cities of Carlsbad, Vista, Escondido, Encinitas, and the Rancho Santa Fe Fire Protection District.

SMFD currently operates 4 fire stations, 4 paramedic assessment engine companies, 1 paramedic assessment truck company, 5 paramedic transport ambulances (24-hour units), 1 shift Battalion Chief, and 1 on-call duty Chief. SMFD also cross-staffs three wildland fire engines and a State of

California/Office of Emergency Services wildland fire engine (City of San Marcos 2022a). The SMFD Station 2, located at 1250 S Rancho Santa Fe Road, San Marcos, CA 92078, is the closest station to the project site and would likely serve the project site should fire response or emergency services be needed. SMFD Station 2 is located approximately 1.3 miles southwest, or 5 minutes away, from the project site. SMFD Station 2 houses one paramedic engine company and one paramedic ambulance in addition to fire response service equipment (City of San Marcos 2022b).

Police Protection

According to the City's General Plan – Land Use and Community Design Element, the City contracts their law enforcement services from the San Diego County Sheriff's Department (City of San Marcos 2012a). The project would be served by the Sheriff's San Marcos Station, located at 182 Santar Place in the northeast quadrant of the City (City of San Marcos 2012a). This sheriff station is located approximately 4 miles east, or 9 minutes, from the project site.

The sheriff's San Marcos Station provides law enforcement services to the City and unincorporated communities of Harmony Grove, Elfin Forest, Lake San Marcos, Hidden Meadows, Ivy Del, Del Dios, Lake Hodges, and the San Pasqual Valley (SDCSD n.d.). Law enforcement services include general patrol, criminal investigation, crime prevention, juvenile services, narcotics and gang investigations, communications and dispatch, and various management support services (City of San Marcos 2012a). Services are available 24 hours a day, 7 days a week.

The San Marcos Station serves more than 111,000 residents and staffs over 100 deputies, volunteers, and professional staff members (SDCSD n.d.). Additionally, Community Oriented Police and Problem Solving (COPPS) teams are assigned to investigate community quality of life issues (SDCSD n.d.). Lastly, the Sheriff's San Marcos Station has the only ASTREA (Sheriff's Aviation) landing pad in the County, providing assistance to ground units and extending the range deputies can patrol (SDCSD n.d.).

The San Diego County Sheriff's Department does not set response time goals. The sheriff's department does, however, prioritize different types of calls to better facilitate deputy dispatches. The sheriff department's priority categories are as follows: priority level 1 (lifesaving response calls), priority level 2 (expeditious response calls within confines of vehicle codes), priority level 3 (calls responded to as soon as possible), and priority level 4 (calls responses to when clear, still being alerted to violations that require immediate law enforcement action) (City of San Marcos 2012a).

Schools

According to the City's General Plan – Land Use and Community Design Element, primary education throughout the City is served by the San Marcos Unified School District (SMUSD) (City of San Marcos 2012a). The SMUSD is approximately 44 square miles and encompasses the City of San Marcos, portions of the cities of Carlsbad, Escondido, Vista, and unincorporated areas of San Diego County

lying between these cities (SMUSD 2021). As of 2021, there were ten elementary schools, one K–8 school, one K–8 International Baccalaureate World School, three middle schools, two comprehensive high schools, and two alternative high school programs that are a part of the SMUSD. There are currently 19,767 students enrolled in the SMUSD (SMUSD 2021).

Parks

The purpose of the City's Parks, Recreation, and Community Health Element of the General Plan is to provide recreational opportunities, which contribute to the health and well-being of the residents of San Marcos and to provide goals and policies that outline the role recreational amenities plan in achieving the City's vision for the future (City of San Marcos 2012b).

There are 16 major community parks and 18 mini parks located throughout the City. The City residents in the project area are currently served by several nearby parks. Specifically, the closest park to the project site is Bradley Park located at 1587 Linda Vista Drive, which is adjacent to the project site to the west. Bradley Park consists of lighted soccer fields, ball fields, picnic tables, picnic shelters, a turf play area, a tot-lot, an on-site caretaker, and horseshoe courts (City of San Marcos 2012b).

Other nearby parks include Mission Sports Park, located 1 mile northeast of the project site, Innovation Park, located approximately 1 mile northeast of the project site, and Sunset Park, located approximately 1 mile northwest of the project site.

Refer to Section 3.14, Recreation, for a more in-depth discussion of existing park and recreation facilities.

Libraries

The City is served by the San Diego County Library, San Marcos Branch located at 2 Civic Center Drive, approximately 2.3 miles east of the project site (City of San Marcos 2022c). The San Marcos Branch is 15,394 square feet (City of San Marcos 2012a), and contains a MakerBot 3D printer, a 28-person capacity meeting room, is Americans with Disabilities Act (ADA) accessible, and is open 7 days a week (San Diego County Library 2022).

3.13.2 Regulatory Setting

This section provides an overview of the applicable state and local regulations governing public services.

State

Quimby Act

Since the passage of the 1975 Quimby Act (California Government Code Section 66477), cities and counties have been authorized to pass ordinances requiring that developers set aside land, donate conservation easements or pay fees for park improvements. Revenues generated by the Quimby Act cannot be used for the operation and maintenance of park facilities. The goal of the Quimby Act was to require developers to help mitigate the impacts of property improvements. The act gives authority for passage of land dedication ordinances only to cities and counties.

California Fire Code

The California Fire Code and Office of the State Fire Marshal provides regulations and guidance for local agencies in the development and enforcement of fire safety standards. The California Fire Code also establishes minimum requirements that would provide a reasonable degree of safety from fire, panic, and explosion.

Senate Bill 50 – Leroy F Greene Schools Facilities Act of 1998

Senate Bill (SB) 50, or the Leroy F. Greene School Facilities Act of 1998, restricts the ability of local agencies to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. Payment of school fees are also collected at the time when building permits are issued. Payment of school fees is required by SB 50 for all new residential development projects and is considered full and complete mitigation of any school impacts (Government Code Section 65996). As required by SB 50, school impact fees are payments to offset capital cost impacts associated with new developments, which result primarily from costs of additional facilities, related furnishings and equipment, and projected capital maintenance requirements. As such, agencies cannot require additional mitigation for any school impacts. School impact fees and fees collected pursuant to SB 50 are collected at the time when building permits are issued.

Local

City's Municipal Code Chapter 17.36 – Park and Recreational Development Construction Unit Fee

The City's Municipal Code Chapter 17.36, Park and Recreational Development Construction Unit Fee, describes the need for developers of dwelling units within the City to pay applicable fees towards the City for the planning, acquisition, improvement, expansion and operation of public parks, playgrounds, and recreational facilities to help mitigate the potential impacts on recreational facilities due to population increases (City of San Marcos 2022d). The payment of fees shall be collected prior to the issuance of building permit by the City.

City's Municipal Code Chapter 17.44 – Development Services and Public Facilities Exactions, Fees and/or Costs

The City's Municipal Code Chapter 17.44, Development Services and Public Facilities Exactions, Fees and/or Costs, describes the payment of fees towards public services, facilities, and infrastructure in the City to mitigate increased demand on these facilities due to development of dwelling units (City of San Marcos 2022d). The developer of new dwelling units in the City would pay development service fees to the City alongside submission of application for grading, construction, building and/or development permit or entitlement by any person, or at the time of permit issuance, as specified by the City (City of San Marcos 2022d).

City's Municipal Code Chapter 17.52 – School Fees and Land Dedication

The City's Municipal Code Chapter 17.52, School Fees and Land Dedication describes the school facility fee dedications needed in the City to alleviate potential overcrowding in schools resulting from increased population from the development of dwelling units (City of San Marcos 2022d).

The City may require, as a condition to the approval of a residential development, the dedication of land, the payment of fees in lieu, or a combination of both, as determined by the decision-making body during the hearings and other proceedings, on specific residential development applications falling within their respective jurisdiction. Prior to imposition of the fees and/or dedications of land, it shall be necessary for the decision-making body acting on the application to make the following findings:

- The City's General Plan provides for the location of public schools.
- The land or fees, of both, transferred to a school district shall be used only for the purpose of providing interim elementary, junior high or high school classroom and related facilities as defined by the governing body of the district.
- The location and amount of land to be dedicated or the amount of fees to be paid, or both, shall bear a reasonable relationship and will be limited to the needs of the community for interim elementary, junior high or high school facilities and shall be reasonably related and limited to the need for schools caused by the development.
- The facilities to be constructed, purchased, leased or rented from such fees or the land to be dedicated or both is consistent with the City's General Plan.

City of San Marcos General Plan

Land Use and Community Design Element

The following are applicable goals and policies from the City of San Marcos General Plan, Land Use and Community Design Element related to public services (City of San Marcos 2012a):

- **Goal LU-8:** Ensure that existing and future development is adequately serviced by infrastructure and public services.
    - **Policy LU-8.1:** New development shall pay its fair share of required improvements to public facilities and services.
    - **Policy LU-8.2:** Promote development timing that is guided by the adequacy of existing and/or expandable infrastructure, services, and facilities.
- **Goal LU-10:** Fire protection, emergency services, and law enforcement: Provide effective, high-quality and responsive services.
    - **Policy LU-10.1:** Provide demand-based fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire, emergency medical, and law enforcement service in San Marcos to meet existing and future demands.
    - **Policy LU-10.2:** Work closely with the County of San Diego Sherriff's Department to determine and meet the community needs for adequate personnel, equipment and state-of-the-art technology to effectively combat crime, and meet existing and projected service demands.
    - **Policy LU-10.3:** Continue to conduct Public Outreach and education regarding fire safety and crime prevention within San Marcos.

Safety Element

The following are applicable goals and policies from the City of San Marcos General Plan, Safety Element related to public services, including fire protection, police protection, parks and libraries (City of San Marcos 2012c):

- **Goal S-3:** Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.
    - **Policy S-3.1:** Require development to be located, designed and constructed to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers.

- **Policy S-3.2:** Provide sufficient level of fire protection service to reduce risk from urban and wildland fire. Advocate and support regional coordination among fire protection and emergency service providers.
- **Policy S-3.3:** Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.
- **Policy S-3.4:** Coordinate with fire protection and emergency service providers to assess fire hazards before and after wildfire events to adjust fire prevention and suppression needs, as necessary, commensurate with both short- and long-term fire prevention needs.

- **Goal S-6:** Provide neighborhood safety through effective law enforcement.
  - **Policy S-6.1:** Continue to maintain demand-based law enforcement service levels to reduce the risk of criminal activity.
  - **Policy S-6.2:** Continue public education efforts and community outreach programs to promote community involvement in crime and drug prevention.
  - **Policy S-6.3:** Use Crime Prevention through Environmental Design (CPTED) principles in the design or redevelopment of projects and buildings.

Parks, Recreation, and Community Health Element

The following are applicable goals and policies from the City of San Marcos General Plan, Parks, Recreation and Community Health Element related to parks (City of San Marcos 2012b):

- **Goal PR-1:** Plan for, acquire, develop, and maintain a system of local parks connected through an integrated network of trails and high-quality recreational facilities.
  - **Policy PR-1.1:** Develop and maintain a complete system of public parks and recreational amenities that provide opportunities for passive and active recreation at a minimum standard of 5 acres per 1,000 residents. Parks, trails, and recreational facilities will enhance community livability, public health, and safety; should be equitably distributed throughout the City; and be responsive to the needs and interests of residents, employees, and visitors.
  - **Policy PR-1.3:** Ensure that the development of parks, trails, and recreation facilities and services keeps pace with development and growth within the City.
  - **Policy PR-1.4:** Promote increased access to parks and open spaces, pedestrian- and bike-oriented routes to parks and open space, greening of public rights-of-way, and a variety of active and passive uses of parks and open space.

- **Policy PR-1.5:** Require new development to be designed and constructed in accordance with the approved Parks Master Plan to meet or exceed the City's parkland standard of 5 acres per 1,000 residents.
- **Policy PR-1.6:** Require new infill development to provide plazas, mini parks, or other civic spaces as part of their parkland requirement.
- **Policy PR-1.7:** Promote park and facility design that discourages vandalism, deters crime, provides natural surveillance, and creates a safe and comfortable environment.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10.4, Project Impact Analysis, the project is consistent with all applicable goals and policies pertaining to public services.

3.13.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to public services are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to public services would occur if the project would:

- **Threshold #1:** Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire protection
  - Police protection
  - Schools
  - Parks
  - Other public facilities

3.13.4 Project Impact Analysis

Threshold #1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

According to the City's General Plan Safety Element, a 3-mile distance between fire stations is sufficient to achieve response time objectives (City of San Marcos 2012c). Based on the proximity of the project site to the existing SMFD facilities, the average response times in the project area, and the fact that the project site is already located within SMFD's service area, the project could be adequately served by the SMFD without the construction of new, or the expansion of existing, facilities.

In addition, as previously analyzed in Section 3.12, Population and Housing, the project would not directly or indirectly induce unplanned population growth in the City. Although the project could potentially result in an incremental increase in calls for service to the project site compared to existing conditions, this increase is expected to be nominal (as opposed to new residential or commercial/retail land uses, which do result in greater increase in calls for service) and would not result in the need for new fire protection facilities. Overall, it is anticipated that the project would be adequately served by existing SMFD facilities, equipment, and personnel.

However, the project would be required to comply with SMFD and California Fire Code requirements. In addition, the project would be required to comply with the City's Development Services Fees outlined in Section 17.44.030 of the City's Municipal Code. Payment of the Development Services Fees go towards City services, which include the Fire Protection District, to ensure adequate fire protection facilities are provided.

A Fire Service Response Analysis prepared for the project (Appendix H) determined that SMFD could provide emergency response to the project site within its internal 7-minute response time from SMFD Station 2. Based on the conservative modeling in this analysis and the response times meeting the SMFD's internal response standards, there is no response time trigger for a new fire station to be provided in closer proximity to the project site. The existing Fire Station 2 would be able to adequately respond within the City's response time standard.

For the reasons stated above, it is determined that potential impacts to fire protection as a result of the project would be **less than significant**.

Police protection?

As previously addressed, the project would not directly or indirectly induce unplanned population growth in the City. Although the project could potentially result in a slight incremental increase in calls for service to the project site compared to existing conditions, this increase is expected to be nominal (as opposed to new residential or commercial/retail land uses, which do result in greater increase in calls for service) and would not result in the need for new police protection facilities. Overall, it is anticipated that the project would be adequately served by existing police department facilities, equipment, and personnel.

Additionally, the project would be required to comply with the City's Development Services Fees outlined in Section 17.44.030 of the City's Municipal Code. Payment of the Development Services Fees funds needed City services, which include the Sheriff's Department.

Therefore, while the project would place a slight increased demand on police protection services, it is not anticipated that the project would result in the need for construction or expansion of existing police facilities, and impacts to police protection resulting from the project would be **less than significant**.

Schools?

As previously discussed, the project would not directly or indirectly induce unplanned population growth in the City. Although the project would require employees to construct and operate the project, these short-term and long-term employees would likely already reside within the broader project area. As such, it is not anticipated that many people would relocate to the City as a result of the project, and an increase in school-age children requiring public education is not expected to occur as a result.

Similar to other development projects in the City, the project would be subject to SB 50, which requires payment of mandatory impact fees to offset any impact to school services or facilities. The provisions of SB 50 are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other state or local laws (Government Code Section 65996). In accordance with SB 50, the project Applicant would pay its fair share of impact fees based on the project's square footage per Government Code Section 65995(h). These impact fees are required of most residential, commercial, and industrial development projects in the City.

As such, with contribution of required development fees, **no impacts** to schools as a result of the project would occur.

Parks?

The project would construct a light industrial building in the City. The project does not propose any residential uses, and would not directly or indirectly induce unplanned population growth in the City. As such, the project would not increase the use of existing neighborhood parks or regional parks in the City and surrounding area.

The project would be required to pay the City's Public Facility Fees (PFFs), which is required of all projects that increase the demand for park and recreation needs in the City. The PFF would be used for developing public neighborhood and regional parks and recreational facilities. Therefore, with payment of applicable fees, **no impacts** related to the use of park facilities would occur. Further details regarding parks and recreation can be found in Section 3.14.

Other public facilities?

Given the industrial nature of the project and the lack of population growth that would result from the project, it is unlikely that the project would increase the use of libraries and other public facilities. Therefore, **no impacts** to other public facilities in the City as a result of the project would occur.

3.13.5 Cumulative Impact Analysis

A cumulative impact refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental effects. Pursuant to CEQA Guidelines Section 15130(b)(1)(A)(B), an adequate discussion of a project's significant cumulative impact, in combination with other closely related projects, can be based on either (1) a list of past, present, and probable future producing related impacts; or (2) a summary of projections contained in an adopted local, regional, or statewide plan, or a related planning document that describes conditions contributing to the cumulative effect. For purposes of assessing the project's cumulative impact with respect to public services, the cumulative analysis is based upon a list approach to determine the project's contributing effect on potential cumulative impacts related to public services (see Table 2-1, Cumulative Projects).

Fire Protection Services

The geographic area for the cumulative analysis of fire protection and emergency services consists of those areas that are serviced by the San Marcos Fire Protection District. The cumulative projects that fall within this geographic area would add to the increase in demand for fire protection and emergency services. The San Marcos Fire Protection District provides service to the City of San Marcos and has existing automatic mutual aid fire agreements in place with the cities of Carlsbad, Vista, Escondido, Encinitas, and the Rancho Santa Fe Fire Protection District.

As discussed in Section 3.13.4, Project Impact Analysis, above, the project could potentially result in an incremental increase in calls for service to the project site compared to existing conditions, this increase is expected to be nominal (as opposed to new residential or commercial/retail land uses, which do result in greater increase in calls for service). The project in addition to cumulative projects could increase the need for fire protection services through routine fire and emergency medical calls, and would increase the demand on SMFD Stations, specifically Station 2, which would serve the project site.

However, similar to the project, cumulative projects would be required to comply with SMFD and California Fire Code requirements. Additionally, the developer/applicant of cumulative projects would be required to comply with the City's Development Services Fees outlined in Section 17.44.030 of the City's Municipal Code. Payment of the Development Services Fees fund City services, which include the Fire Protection District.

Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities. Cumulative projects are anticipated to prepare similar analyses and provide mitigation if the response time cannot be met. Therefore, it is determined that cumulative impacts to fire protection as a result of the project would be **less than significant**.

Police Protection Services

The geographic area for the cumulative analysis of police protection is those areas that are serviced by the San Marcos Sheriff's Department. All cumulative projects would result in an increase in demand for police protection services from the San Marcos Sheriff's Department. The project site would be served by the San Marcos Station, located approximately 4 miles from the project site. As discussed in Section 3.13.4, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities. Therefore, cumulative impacts to police protection services would be **less than significant**.

For informational purposes, cumulative projects could result in additional demand of police protection services and the potential need for additional police protection resources. Similar to the project, all cumulative projects would be required to offset increased demand to police protection services through the payment of Development Services Fees, which go towards City services, which include the Sheriff's Department. These fees would provide for additional staff and equipment to assist in the provision of law enforcement services.

Schools

Cumulative projects that have a residential component would generate students that need to be accommodated by either SMUSD or another school district in the area. As discussed in Section 3.13.4, the project would be required to contribute development fees to San Marcos Unified School District, pursuant to California Education Code Section 17620 et seq. and Government Code Sections 65995(h) and 65996(b) as well as the City's Municipal Code Section 17.52.050. SB 50 states that the fees imposed by school districts shall constitute the exclusive method of considering and mitigating impacts on school facilities caused by a development project. As such, with contribution of required development fees by the project and cumulative projects, **no cumulative impacts** to schools would occur.

Parks

As discussed in Section 3.13.4, the project developer/applicant would be required to pay the City's PFF, required to all projects that increase the demand for park and recreation needs in the City, and which is used for developing neighborhood and regional parks. It is expected that all cumulative projects that increase demand for parks and recreation needs would also be required to pay these

fees. With payment into the City's PFF and dedication of open space, **no cumulative impacts** on recreational facilities in the City would occur.

Libraries

Cumulative projects within the services area of the San Marcos Branch Library could potentially result in an increase in demand for library services. Aside from the San Marcos Branch, additional library services are available in the County through the Serra Library System. In addition, community members can get borrowing privileges at the CSUSM campus and the Palomar Community College. These additional library resources provide over 200,000 square feet of additional library space. Therefore, it is determined that **no cumulative impacts** to library facilities in the City as a result of the project would occur.

3.13.6 Mitigation Measures

No significant impacts to public services were identified; thus, no mitigation measures are required.

3.13.7 Conclusion

As analyzed above, the project would develop a light industrial building in the City. This would result in a nominal increase in demand for fire protection, emergency medical services, police protection, school services, and library facilities. However, the project and cumulative projects would be required to comply with applicable regulations and pay all applicable development fees discussed above, including payment of school mitigation fees pursuant to California Education Code Section 17620 et seq. and Government Code Sections 65995(h) and 65996(b) as well as the City's Municipal Code Section 17.52.050; payment towards the City's Development Services Fees outlined in Section 17.44.030 of the City's Municipal Code, which goes toward City services, which include the Fire and Police services; and payment of the City's PFF required to all projects that increase the demand for park and recreation needs in the City. With compliance with applicable regulations and payment of the applicable fees outlined above, direct and cumulative impacts to public services would be **less than significant**.

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3.14 RECREATION

This section describes the existing recreation setting of the Hughes Circuits Project (project) site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project.

Table 3.14-1 summarizes the project- and cumulative-impact analysis by threshold for the project.

Table 3.14-1
Recreation Summary of Impacts

Threshold of Significance	Project Direct Impact	Project Cumulative Impact	Significance Determination
#1 - The project increases 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.	No Impact	No Impact	No Impact
#2 - The project includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	No Impact	No Impact	No Impact

3.14.1 Existing Conditions

This section describes existing park, recreation facilities, and trails on the project site and in the project vicinity. The City of San Marcos (City) has over 290 acres of park land and 37 parks (City of San Marcos 2022a). The City of San Marcos's Parks Master Plan classified parks into 8 different categories: Regional Parks, Community Parks, Neighborhood Parks, Mini (Urban) Parks, Special Use Facilities, Historical, Monuments, and Memorials, Recreation Centers, and Aquatic Centers (City of San Marcos 2018). Details on each of these park categories are details below.

Regional Parks

Regional Parks are defined as parks that are a minimum of 50 acres with 75 or more acres being optimal (City of San Marcos 2018). The drive time to a Regional Park is approximately 1 hour or less, and offers a variety of terrain, scenic views, cultural amenities and extensive natural areas with both passive and active opportunities.

Community Parks

Community Parks are defined as parks that are a minimum size of 10 to 100 acres (City of San Marcos 2018). Community Parks serve two or more neighborhoods with a service area of 0.5 to 3 miles. There are five Community Parks in the City of San Marcos: Bradley Park, Woodland Park, Walnut Grove Park,

Discovery/Lakeview Park, and Double Peak Park. Bradley Park and Discovery/Lakeview Park would serve the project site, as the project site is located within the service area of these two parks. Bradley Park is located immediately adjacent to the project site to the west, and Discovery/Lakeview Park is located approximately 1.5 miles southeast of the project site.

Bradley Park

Bradley Park is the City's oldest park, comprising a total of 34 acres located at the intersection of Rancho Santa Fe Road and Linda Vista Drive. It is a sports-oriented facility with 26 acres already developed, leaving a final 10 acres for future planning, design and construction. The site contains two flat areas divided by a short, steep slope. The "Upper Mesa" contains the area currently under construction for new active recreation facilities and yet to be planned acreages, while the already developed acreage is on the "Lower Mesa." The existing emphasis of the park is active sports facilities. This park is the primary site for active sports in the City. This park includes, tot lots, picnic areas, artificial turf areas and an indoor soccer arena (by permit only) (City of San Marcos 2018).

Discovery/Lakeview Park

Lakeview Park is at the corner of Foxhall and Poppy Road. Lake View Park (at Discovery Lake) is 23 acres of open space and a 5-acre lake. This park has a trail around the lake (City of San Marcos 2018).

Neighborhood Parks

Neighborhood Parks are defined as parks that are generally 5 acres, although 7 to 10 acres are optimal (City of San Marcos 2018). Neighborhood Parks have a service area of 0.25 to 0.5 miles and should be accessible by arterial roads. There are 14 Neighborhood Parks in the City: Buelow Park, Connors Park, Hollandia Park, Innovation Park, Knob Hill Park, Jacks Pond Park, Cerros de Las Posas Park, Mission Sports Park, Montiel Park, Mulberry Park, Richmar Park, San Elijo Park, Simmons Family Park, and Sunset Park.

Mini (Urban) Parks

Mini (Urban) Parks are defined as parks that are between 2,500 square feet and 1 acre in size, although a park area of less than 5 acres could be considered a Mini Park (City of San Marcos 2018). A Mini Park's service area is 0.25 miles or less and in a residential setting. There are 18 Mini (Urban) Parks in the City: Alder Glen Park, Amigo Park, Bougher Park, Children's Park, Civic Center Park, Creek View Park, Discovery Meadows, Foothill Park, The Laurels Park, Optimist Park, Pebblestone Park, Quail Valley Park, Questhaven Park, Regency Hills Park, Ridgeline Trailhead, Santa Fe Hills Park, Summer Hill Park, and Valley View Park.

Special Use Facility

A Special Use Facility includes three categories of facilities (City of San Marcos 2018):

- Historic/Cultural/Social Sites – A unique local resource offering historical, education, and cultural opportunities. Examples include historic downtown areas, performing arts parks, arboretums, display gardens, performing arts facilities, indoor theaters, churches, public buildings, and amphitheaters.
- Recreation Facilities – A specialized or single purpose facility. Examples include community centers, senior centers, community theaters, hockey arenas, marinas, golf courses and aquatic parks.
- Outdoor Recreation Facilities – Examples include tennis centers, softball complexes, sports stadiums, skateboard parks, and bark parks.

The size and service area of a Special Use Facility varies greatly.

Historical, Monuments, and Memorials

A Historical, Monuments, and Memorials parks preserve monuments and memorials, provides programmed historic interpretation, attracts tourists and offers passive recreation opportunities (such as trails) (City of San Marcos 2018). The size and service area varies.

Recreation Centers

Recreation centers are intended to provide indoor leisure facilities and programs at a reasonable cost. Recreation centers also serve as meeting facilities for local social gatherings, public events, and are designed to be a hub of recreation activity (City of San Marcos 2018). The size and service area varies.

Aquatic Centers

Aquatic centers are swimming facilities that provide active recreation for the residents of San Marcos. The size of these facilities varies. The service area is a minimum population of 25,000, and the recommended level of service is one aquatic center site per 40,000 persons in San Marcos (City of San Marcos 2018).

Trails

The City currently owns and manages 63 miles of completed trails with plans to expand the trail network to 72 miles (City of San Marcos 2018). The goal of the trail system is two-fold: (1) to serve as a recreational amenity and (2) provide an alternative means of circulation for non-motorized travelers through an inter-linked citywide system of trails connecting residential neighborhoods to parks,

schools, colleges, stores, restaurants, movie theaters, other important destinations within the City, and with the wider regional trails system in adjacent cities.

3.14.2 Regulatory Setting

This section describes the state and local laws and regulations that are applicable to recreation and the project.

State

Quimby Act

Since the passage of the 1975 Quimby Act (California Government Code Section 66477), cities and counties have been authorized to pass ordinances requiring that developers set aside land, donate conservation easements or pay fees for park improvements. Revenues generated by the Quimby Act cannot be used for the operation and maintenance of park facilities. The goal of the Quimby Act was to require developers to help mitigate the impacts of property improvements. The act gives authority for passage of land dedication ordinances only to cities and counties.

The Landscape and Lighting Act of 1972

The Landscape and Lighting Act of 1972 enables cities, counties and special districts to acquire land for parks, recreation and open space. A local government may also use the assessments to pay for improvements and maintenance in these areas.

The Mello-Roos Community Facilities Act

The Mello-Roos Community Facilities Act (California Government Code Section 53311 et seq.) is a tax-based financing method available to cities, counties, and special districts. It authorizes local governments to establish community facilities districts within which they may levy special taxes and issue bonds to finance open space acquisition, maintenance, and other programs. Approval of the special tax and any related bond issue requires approval by two-thirds of the district electorate.

Local

City's Municipal Code Chapter 17.36 – Park and Recreational Development Construction Fee

As described in Chapter 17.36 in the City's Municipal Code, the continued increase in the development of dwelling units and population within the City has created the need for planning, acquisition, improvement, expansion and operation of public parks, playgrounds, recreational facilities in the City, and thus the need for additional revenues with which to finance such facilities. This chapter of the Municipal Code requires that each builder of each dwelling unit to be constructed within the City of

San Marcos shall, prior to the construction, pay a fee, as adopted by Resolution by the City Council (City of San Marcos 2022b).

City's Municipal Code Chapter 17.44 – Development Services and Public Facilities, Exaction, Fees and/or Costs

The City recognizes that the continued development of property within the City's jurisdictional boundaries has resulted in an increased demand on existing public services, facilities, and infrastructure; the need for expansion of public services, facilities, and infrastructure; and/or the need for the installation of new public services, facilities, and infrastructure. It is the intent of the City that each applicant for a grading, construction, building and/or development permit or entitlement shall, prior to the issuance of such permit or entitlement, pay Public Facilities Fees. The funds generated by the payment of fees described Chapter 17.44 shall be deposited into separate accounts established for the purposes of maintaining, expanding, and installing public infrastructure. Such public infrastructure includes active or passive open space and parks (City of San Marcos 2022b).

City of San Marcos General Plan

Parks, Recreation, and Community Health Element

The following are applicable goals and policies from the City of San Marcos General Plan, Parks, Recreation, and Community Health Element (City of San Marcos 2012):

- **Goal PR-1:** Plan for, acquire, develop, and maintain a system of local parks connected through an integrated network of trails and high-quality recreational facilities.
    - **Policy PR-1.1:** Develop and maintain a complete system of public parks and recreational amenities that provide opportunities for passive and active recreation at a minimum standard of 5 acres per 1,000 residents. Parks, trails, and recreational facilities will enhance community livability, public health, and safety; should be equitably distributed throughout the City; and be responsive to the needs and interests of residents, employees, and visitors.
    - **Policy PR-1.3:** Ensure that the development of parks, trails, and recreation facilities and services keeps pace with development and growth within the City.
    - **Policy PR-1.4:** Promote increased access to parks and open spaces, pedestrian- and bike-oriented routes to parks and open space, greening of public rights-of-way, and a variety of active and passive uses of parks and open space.
    - **Policy PR-1.5:** Require new development to be designed and constructed in accordance with the approved Parks Master Plan to meet or exceed the City's parkland standard of 5 acres per 1,000 residents.

- **Policy PR-1.6:** Require new infill development to provide plazas, mini parks, or other civic spaces as part of their parkland requirement.
- **Policy PR-1.7:** Promote park and facility design that discourages vandalism, deters crime, provides natural surveillance, and creates a safe and comfortable environment.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10.4, Project Impact Analysis, the project is consistent with the applicable goals and policies pertaining to recreation.

Parks Master Plan

The City adopted its first Parks Master Plan in 1990, which presented a vision of parks and recreation facilities for the City. Since that time, the City has changed significantly, so a Master Plan Update was adopted in 2017. The goal of the Parks Master Plan Update is to identify potential improvements to the park system and, as funding becomes available, suggest additional amenities for new parks and improvements to existing park facilities (City of San Marcos 2018).

Master Trails Plan

The City's Master Trails Plan, adopted in 1991, details a trails implementation strategy and description of each proposed trail segment. The plan envisions a system of connectivity through trail corridors networked across the City. To meet this goal, the Master Trails Plan recommends the creation of 72 miles of trails that will provide an alternative means of circulation and recreational opportunities to San Marcos residents and visitors. These trails will include 21 miles of urban trails, 36 miles of multiuse trails, and 15 miles of soft-surface trails that connect neighborhoods to parks, schools and workplaces as well as to the trails systems of neighboring cities and the County of San Diego (City of San Marcos 2018).

3.14.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to recreation are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to recreation would occur if the project would:

- **Threshold #1:** 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.
- **Threshold #2:** Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.14.4 Project Impact Analysis

Threshold #1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The project would construct a light industrial building and associated improvements. The project does not propose any residential uses, and would not directly or indirectly result in a substantial and unplanned increase in population growth within the project area. Although development of the project would employee approximately 60 people, all employees are not expected to be new to the area, nor would employees reside on site. The introduction of 60 new workers to the area is not considered substantial, and is not expected to result in substantial deterioration on existing recreational facilities within the City. As such, the project would not increase the use of existing neighborhood parks or regional parks in the City and surrounding area. In addition, as an industrial use, the project does not propose recreational facilities or require the construction or expansion of recreational facilities. Therefore, **no impacts** to existing neighborhood and regional parks would occur.

Threshold #2: Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As stated under Threshold #1, the project would construct a light industrial building and associated improvements. The project would preserve 7.85 acres of the site as open space but does not propose the construction or expansion of recreational facilities. Therefore, **no impacts** related to the construction or expansion of recreational facilities would occur.

3.14.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental effects. Pursuant to CEQA Guidelines Section 15130(b)(1)(A)(B), an adequate discussion of a project's significant cumulative impact, in combination with other closely related projects, can be based on either (1) a list of past, present, and probable future producing related impacts; or (2) a summary of projections contained in an adopted local, regional, or statewide plan, or a related planning document that describes conditions contributing to the cumulative effect. For purposes of assessing the project's cumulative impact with respect to recreation, the cumulative analysis is based upon a list approach to determine the project's contributing effect on potential cumulative impacts related to recreation. Cumulative projects are outlined in Table 2-1 in Chapter 2, Project Description, of this environmental impact report.

The project would not increase the demand for park and recreation facilities in the City. All cumulative projects that increase the demand for park and recreation needs would be required to provide park space and/or pay the City's Public Facilities Fees. Furthermore, any substantial expansion or development of new recreational facilities would be subject to the appropriate CEQA environmental

review, which would identify and address any site-specific impacts. Therefore, with payment of the City's Public Facilities Fees and project-specific environmental review, **no cumulative impacts** to recreational facilities would occur.

3.14.6 Mitigation Measures

No significant impacts to recreation were identified; thus, no mitigation is required.

3.14.7 Conclusion

As analyzed in Section 3.14.4, Project Impact Analysis, above, the project would not increase the use of existing neighborhood parks or regional parks in the City and surrounding area. Therefore, **no impacts** related to recreation would occur.

3.15 TRANSPORTATION

This section describes the transportation impact analysis for the Hughes Circuits Project (project). It includes a description of existing traffic conditions, trip generation for the project, traffic modeling, and identification of mitigation measures. The section is based on the following technical reports prepared for the project:

- Local Transportation Analysis (LTA), prepared by CR Associates in December 2023 (included as Appendix I-1 to this environmental impact report [EIR]).
- Vehicle Miles Traveled Analysis Technical Memorandum, prepared by CR Associates in December 2023 (included as Appendix I-2 to this EIR).

The traffic reports prepared for the project is consistent with the objectives and requirements of the City of San Marcos's General Plan Mobility Element and applicable provisions of the California Environmental Quality Act (CEQA), including disclosure of project impacts in both existing and cumulative horizon years.

Table 3.15-1 summarizes the project- and cumulative-level impact analyses, by threshold.

Table 3.15-1
Transportation Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 - Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less than Significant	Less than Significant	Less than Significant
#2 – Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
#3 - Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less than Significant	Less than Significant	Less than Significant
#4 - Result in inadequate emergency access.	Less than Significant	Less than Significant	Less than Significant

3.15.1 Existing Conditions

This section describes the existing circulation and transportation system in the project area, as well as the methodology used to prepare the transportation analysis.

Project Location

The approximately 10.46-acre project site is located in the western portion of the City of San Marcos, located at the northeast corner of South Pacific Street. South Pacific Street abuts the site's western and southern boundaries. The project site is immediately bordered by South Pacific Street to the south and west. Adjacent land uses include industrial and mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is State Route (SR) 78, approximately 0.7 miles north of the project site.

Access to the project from the regional transportation network will be provided via California SR-78, South Rancho Santa Fe Road, Linda Vista Drive, South Pacific Street, South Las Posas Road, and West San Marcos Boulevard. These facilities will either provide a direct connection to the project, via a project driveway, or will provide a critical link between the project and the regional transportation network.

Methodology

Local Transportation Analysis Approach and Methodology

As part of the LTA prepared for the project (Appendix I-1), the vehicle miles traveled (VMT) analysis was prepared to satisfy the requirements of the CEQA. The level of service (LOS) analysis conducted as a part of this study was used to evaluate the effects of the project on the circulation network. Per the City of San Marcos Transportation Impact Analysis Guidelines (TIAG) (City of San Marcos 2020), the City of San Marcos (City) strives to maintain intersection and roadway segment operations based on LOS standards outlined in the General Plan Mobility Element (City of San Marcos 2012a). Improvements should be identified for any study facilities that do not meet City LOS standards to increase performance to acceptable or pre-project conditions.

A discussion of LOS is included to support the LTA, consider consistency with programs addressing the circulation system and for information purposes only. Under CEQA, LOS or other measures of vehicle capacity or traffic congestion are no longer considered to be a significant impact on the environment. The effect of the project on traffic delay is not a significant impact under CEQA. For informational purposes, trip generation rates and distribution information is provided from the LTA. However, the potential CEQA environmental impact of the project in terms of vehicle trips is analyzed in terms of VMT below.

<u>VMT Metrics</u>

Consistent with the City's TIAG, the project shall be analyzed by the following VMT metric (City of San Marcos 2020):

- VMT/Employee which includes all daily work tour automobile vehicle-trips and associated VMT made by employed persons who work in the San Diego Association of Governments (SANDAG) Region traced back to the workplace of the trip-maker.

The City's TIAG provide screening criteria to screen out VMT based on project size, location, provision of affordable housing, and transit availability. The City uses screening thresholds to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed VMT study. Relevant screening criteria for the project is described below:

- Map-Based Screening – Residential and employment projects located in areas that generate VMT below adopted City threshold can be presumed to have a less-than-significant transportation impact. This determination must be made by SANDAG's online residential and employment VMT maps for existing year or model baselines year VMT (whichever is available at the time analysis is being conducted), which show census tracts in the city where the VMT is below the regional average.

Based on the project site location, land use characteristics, and trip generation of the project, none of the above listed screening criteria are anticipated to be applicable and therefore a detailed VMT analysis is required. This project analysis uses the VMT metric and impact thresholds developed by the City's TIAG (City of San Marcos 2020), which provides a significant impact will occur if the project generates VMT per resident exceeding a level of 15% below the existing countywide average. Project VMT modeled results are included as part of Appendix I-2, and summarized in the analysis below.

If a project would result in significant impacts, CEQA requires mitigation measures to be implemented to reduce or mitigate an impact. VMT is reduced by implementing strategies that reduce the number of automobile trips generated by the project, shift more trips from automobile to non-automobile modes, and/or reduce the distances that people drive. Generally, these reductions can be achieved by the implementation of Transportation Demand Management (TDM) strategies. TDM measures focus on understanding how people make their transportation decisions and help people use the infrastructure in place for transit, ridesharing, walking, biking, and telework. The following are examples of TDM measures:

- Transit pass subsidies
- Carpool program
- Flexible work schedules
- Telework
- Showers, changing rooms, and secure bike parking to help employees bike to work

Projects for which VMT impacts are determined to be significant are required to propose a list of VMT reduction measures and document the associated percent reduction in VMT. Mitigated project VMT is calculated by applying the percent reduction. Project VMT is then compared to the threshold of significance to determine if the project's VMT impact has been mitigated.

Level of service

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments. The City strives to maintain intersection and roadway segment operations based on LOS standards outlined in the General Plan Mobility Element.

As described above, the potential CEQA environmental impact of the project in terms of vehicle trips is analyzed in terms of VMT. LOS is provided herein and in the LTA (Appendix I-1) for information purposes only.

Intersections and Street Segments

Both signalized and unsignalized intersections, in addition to street segments, were analyzed as part of the local transportation analysis. These terms are described below:

Signalized intersections: Signalized intersections were analyzed under AM and PM peak-hour conditions. Average vehicle delay was determined using the methodology found in Chapter 19 of the Highway Capacity Manual 6th Edition (HCM 6) (TRB 2016), with the assistance of the Synchro 10 computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS.

Unsignalized intersections: Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapter 20 and Chapter 21 of the HCM 6 with the assistance of the Synchro 10 computer software.

Street Segments: Street segment analysis is based on the comparison of average daily traffic volumes to the City's roadway classification, LOS (City of San Marcos 2012a), and average daily traffic (City of San Marcos 2019) tables. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics.

Study Scenarios

Study scenarios used for the LTA are outlined below:

- **Existing Conditions:** Used to establish the existing baseline of traffic operations within the study area.

- **Near-Term (Interim Year 2023) Conditions:** Based on the SANDAG pre-established interim year scenario closest to the project's anticipated opening year.
- **Near-Term (Interim Year 2023) Plus Project Conditions:** Include project-generated traffic added to interim year volumes.
- **Horizon Year Conditions:** Based on the Regional Transportation Plan year, currently 2050.
- **Horizon Year Plus Project Conditions:** Include project-generated traffic added to horizon year traffic volumes.

Existing Street Network

Figure 5.1 of Appendix I-1 to this EIR depicts existing conditions within the transportation study area, including signalized intersections and lane configurations. The transportation study area evaluated for the project includes the following intersections and street segments, based on the anticipated distribution traffic to/from the project site.

Intersections:

1. South Pacific Street and Linda Vista Drive
2. South Pacific Street and West San Marcos Boulevard
3. South Pacific Street and Project Driveway #1
4. Project Driveway #2 and South Pacific Street

Roadway Segments:

- South Pacific Street, between Linda Vista Drive and West San Marcos Boulevard
- Linda Vista Drive, between South Rancho Santa Fe Road and South Pacific Street
- Linda Vista Drive, between South Pacific Street and South Las Posas Road

The number associated with each intersection is referenced in the existing conditions analysis and project analysis throughout this EIR section.

The principal roadways in the project study area are described briefly below within Table 3.15-2. Roadway classification was determined from a review of the City of San Marcos Mobility Element (City of San Marcos 2012a) and information gathered from field observations.

Table 3.15-2
Existing Transportation Network Characteristics

Street Segment	Number of Lanes	Median Type	Posted Speed Limit	Sidewalk?	Bike lanes?	Transit Route
Linda Vista Drive						
S Rancho Santa Fe Road to S Pacific Street	1 EB/1 WB	CLTL	35	North Side: Intermittently Contiguous South Side: Contiguous	North Side: Class II South Side: None	None
S Pacific Street to Las Posas Road	2 EB/2 WB	CLTL	35	North Side: None South Side: Intermittently Contiguous	None	None
South Pacific Street						
Linda Vista Drive to W San Marcos Blvd	1 NB/1 SB	None	35	Intermittently Contiguous	None	None

Source: LTA, included as Appendix I-1 to this EIR.
Notes:
EB = East Bound
WB = West Bound
NB = North Bound
SB = South Bound
CLTL = Center Left Turn Lane

Existing Traffic Volumes

Traffic counts for study roadway segments and intersections were conducted on June 23, 2022, by Elite Traffic Dynamics LLC. A count validation was conducted to ensure that recently collected counts reflect the following:

- Traffic conditions prior to the COVID-19 restrictions
- Traffic conditions during the peak season, including school-related traffic

Historical (November 2017 and May 2018) counts conducted in the vicinity of the project study area were compared against recently collected (May 2022) counts. Based on the comparison, recently collected counts (2022) are greater than pre-pandemic counts. Thus, June 2022 counts were not adjusted for the purpose of reflecting pre-pandemic conditions.

Similarly, recently collected (May 2022) counts conducted in the vicinity of the project study area were compared against June 2022 counts. Based on the comparison, recently collected counts are greater than June 2022 counts. In other words, June 2022 counts do not reflect the higher volumes that occurred during the peak season when schools were in session. However, it is important to note that the traffic counts used for this part of the count validation were conducted at intersections where school traffic is more likely to travel through, such as the intersection of Via Vera Cruz and West

San Marcos Boulevard. These roadways are part of the regional network and provide direct connections to SR-78. In contrast, the project's study facilities (Linda Vista Drive and South Pacific Street) are not likely to receive a significant amount of school traffic, and thus do not merit the need for adjustments to reflect peak conditions. However, as a conservative approach, June 2022 counts for study facilities were adjusted as if to reflect a school-related growth. Based on count validation results, June 2022 counts were adjusted as follows:

- Daily traffic volumes (roadway segments) – 5% overall increase
- AM/PM peak hour turning movements (intersections) – 13% overall increase

Traffic count worksheets, including study area counts, historical counts, and other recently collected counts, are provided in Appendix I-1. Figure 5.2 within Appendix I-1 displays existing daily traffic volumes for study roadway segments and AM/PM peak-hour turning movements for study intersections.

Existing Transit Conditions

The North County Transit District provides public transportation within the City and San Diego County for Coaster rail service, Sprinter light rail service, and Breeze bus service (City of San Marcos 2012a). Sprinter service operates between Escondido and Oceanside, with connections to Interstate 5 and the Coaster rail service operating out of Oceanside. The North County Transit District operates the Palomar College Station Sprinter and Breeze transit station located approximately 1 mile from the project site. Transit service is provided to the project area via North County Transit District bus routes 304, 347, and 445.

Bus Route 304 – This bus route is serviced along West Mission Road in the eastbound/westbound direction within the project study area. This bus route connects the Palomar College Transit Center to the Encinitas Transit Station. Operations starts at 4:53 AM and ends at 8:23 PM between Monday and Friday with 30-minute intervals. On Saturdays, operations start at 6:53 AM and ends at 9:05 PM with 60-minute intervals. This route does not operate on Sundays.

Bus Route 347 – This bus route is serviced along West Mission Road and North Las Posas Road within the project study area. This bus route connects the Palomar College Transit Center to the California State University San Marcos SPRINTER Station. Operations starts at 5:31 AM and ends at 7:21 PM between Monday and Friday with 30-minute intervals. On Saturdays, operations start at 7:22 AM and ends at 7:08 PM with 60-minute intervals. This route does not operate on Sundays.

Bus Route 445 – This bus route is serviced along West Mission Road and North Las Posas Road within the project study area. This bus route connects the Palomar College Transit Center to the Carlsbad Poinsettia Station (COASTER Connection). Between Monday and Friday, operations start at 6:34 AM and ends at 10:19 AM with 30-minute intervals for the morning period. Similarly, between Monday and Friday, operates start at 3:36 PM and ends at 7:19 PM with 30-minute intervals for the afternoon period. This route does not operate on Saturdays or Sundays.

SPRINTER – This light rail line runs between Oceanside Transit Center and Escondido Transit Center (eastbound and westbound direction). The nearest stop to the project site is the Palomar College Transit Center. Operation starts at 4:17 AM and ends at 9:10 PM between Monday and Sunday with 30- to 60-minute intervals.

Existing Bicycle Network

Under existing conditions, there are no bicycle facilities along the project frontage. The nearest planned bicycle facilities, per the City's General Plan, are a Class I Bike Path and Class II Bike Lanes along Linda Vista Drive, just north of the project site, and a Class I Bike Path along West San Marcos Boulevard, just south of the project site (City of San Marcos 2012a).

Analysis of Existing Conditions

Intersection Levels of Service

Table 3.15-3 displays intersection LOS and average vehicle delay results for the study intersections under Existing conditions. LOS calculation worksheets for existing conditions are provided in Appendix I-1. As shown, the intersection of South Pacific Street and Linda Vista Drive currently operates at unacceptable LOS F during the PM peak hour.

As explained above, LOS information is provided as part of the LTA, not in support of the CEQA analysis. LOS or other measures of vehicle capacity or traffic congestion are no longer considered to be a significant impact on the environment. For informational purposes, trip generation rates and distribution information is provided from the LTA. The potential CEQA environmental impact of the project in terms of VMT.

Table 3.15-3
Peak Hour Intersection LOS Results – Existing Conditions

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	*LOS*
1 – South Pacific Street and Linda Vista Drive	AWSC	AM	17.1	C
		PM	59.4	**F**
2 – South Pacific Street and West San Marcos Boulevard	Signal	AM	17.3	B
		PM	8.0	A

Notes:
[a] Average delay expressed in seconds per vehicle.
LOS = Level of Service.
AWSC = All-Way Stop Controlled intersection.
Bold indicates LOS E or F
Source: LTA, included as Appendix I-1 to this EIR.

Roadway Segment Levels of Service

Table 3.15-4 displays roadway segment and LOS analysis results for study roadway segments under existing conditions. As shown, all study roadway segments currently operate at acceptable LOS D or better under Existing conditions.

Table 3.15-4
Roadway Segment LOS Results – Existing Conditions

Street Segment	Functional Classification	Roadway Capacity	Daily Volume	V/C	LOS
Linda Vista Drive					
S Rancho Santa Fe Rd to S Pacific St	2-Lane Collector (w/CLTL)	15,000	11,422	0.761	D
S Pacific St to S Las Posas Rd	4-Lane Secondary Arterial/Collector (w/CLTL)	30,000	9,099	0.303	A
South Pacific Street					
Linda Vista Dr to W San Marcos Blvd	2-Lane Collector (w/Commercial Fronting)	8,000	2,055	0.257	A

Notes:
CLTL = Center Left Turn Lane
V/C = Volume to Capacity.
LOS = Level of Service.
Source: LTA, included as Appendix I-1 to this EIR.

Cumulative Project Traffic

The following 11 projects were identified by City staff as cumulative projects, since they are anticipated to contribute traffic near the project study area by the project's opening year:

1. Pacific Commercial – This project is located at the northeast corner of the Grand Avenue and Pacific Street intersection. This project proposes to construct a 122-room hotel.
2. San Marcos Highlands – This project is located at the north end of Las Posas Road. This project proposes to construct 187 single-family residential dwelling units as well as a 21.68-acre passive park.
3. El Dorado II Specific Plan – This project is located at the southwest corner of the Richmar Avenue and Pleasant Way intersection. This project proposes to construct 72 multi-family dwelling units as well as 2,000 square feet of specialty retail.
4. Villa Serena – This project is located the northwest corner of the Richmar Avenue and Marcos Street intersection. This project proposes to construct 12 multi-family dwelling units.

5. Mariposa (Phase 1) – This project is located at the northeast corner of the Richmar Avenue and Los Olivos Drive intersection. This project proposes to develop 60 multi-family dwelling units.
6. Murai Subdivision – This project is located at the north end of Las Posas Road. This project proposes to construct 89 single-family residential dwelling units.
7. Pacifica San Marcos – This project is located at the southeast corner of the Rancho Santa Fe Road and 9th Street intersection. This project proposes to construct 31 multi-family dwelling units as well as 4,375 square feet of commercial use.
8. Karl Strauss Brewery – This project is located at the southeast corner of the North Las Posas Road and Armorlite Drive intersection. This project proposes to construct 10,528 square feet of uses that include a tasting room, commercial kitchen, and entertainment room.
9. Gran Vista Multi-Family – This project is located 250 feet northwest of the West Mission Road and North Las Posas Road intersection. This project proposes to construct 120 multi-family dwelling units.
10. Marcos Specific Plan – This project is located at the northwest corner of Linda Vista Drive and Grand Avenue. This project proposes to construct 102 multi-family dwelling units, 15,086 SF of office space, and 49,266 SF of specialty retail space.
11. Upham Pacific Residential Project – This project is located at the northwest corner of the Linda Vista Drive and Las Posas Road Intersection. This project proposes to construct 449 residential units. Based on discussions with City of San Marcos staff, this project will signalize the intersection of Linda Vista Drive and South Pacific Street as part of project frontage improvements. However, due to the uncertainty of the opening year, the intersection was assumed to remain unsignalized under Near-Term Year 2024 Base conditions.

The traffic generated from the projects listed above are not likely to result in trips along study roadway segments and study intersections. Since there are no cumulative project trips anticipated to occur within the project study area, an ambient growth rate for project study area as determined by comparing traffic volumes from SANDAG's Transportation Forecast Information Center Series 14 ABM2+/2021 RP Forecast Year 2025 Model (scenario ID#462) with those in the Series 14 Forecast Year 2050 Model (scenario ID#459) (SANDAG 2022), as outlined in detail in Appendix I-1. An annual growth rate of 0.16% was observed over the 25-year period (Appendix I-1).

3.15.2 Regulatory Setting

The following provides a general description of the applicable regulatory requirements and guidelines for the project area.

State

California Department of Transportation

The California Department of Transportation (Caltrans) is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans has established standards for roadway traffic flow and has developed procedures to determine if intersections require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities, but may influence traffic flow and levels of services at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects.

AB 1358 – California Complete Streets Act of 2008

The California Complete Streets Act of 2008 (Assembly Bill [AB] 1358) requires circulation elements as of January 1, 2011, to accommodate the transportation system from a multi-modal perspective, including public transit, walking, and biking, which have traditionally been marginalized in comparison to autos in contemporary American urban planning.

SB 743, CEQA Guidelines Update

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including CEQA Guidelines Section 15063.4, which implements Senate Bill (SB) 743. SB 743 required new metrics for analyzing transportation impacts under CEQA to provide an alternative to LOS. Measurements of transportation impacts may include VMT,[1] vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. In most cases, a project's effect on automobile delay will no longer constitute a significant environmental impact.[2]

The justification for this paradigm shift is that when significant impacts are identified under a LOS and delay-based analysis, the mitigation is often to provide road improvements, which increase roadway capacity that inherently accommodates more vehicular traffic resulting in additional greenhouse gas emissions. In contrast, under a VMT based analysis, mitigation typically takes the form of strategies intended to reduce vehicle traffic, rather than accommodate such traffic, thereby reducing vehicle traffic and associated emissions. Lead agencies were tasked to transition to the new guidelines and establish thresholds for transportation impacts no later than July 1, 2020.

1 VMT refers to the amount and distance of automobile travel attributable to a project.
2 SB 743 also amends congestion management law to allow cities and counties to opt out of LOS standards within certain infill areas.

Lead agencies were tasked to transition to the new guidelines and establish thresholds for transportation impacts no later than July 1, 2020. The City adopted its VMT thresholds for CEQA purposes in November 2020 as part of the City's Transportation Impact Analysis Guidelines (City of San Marcos 2020), which, relevant to this project proposing a residential land use, provides a significant impact will occur if a project generates VMT per resident exceeding a level of 15% below the existing countywide average. The City's Transportation Impact Analysis Guidelines also provide VMT thresholds for other land use types including employment projects (office and industrial), retail uses, mixed-use projects, and redevelopment projects. Potential transportation impacts of the project are analyzed using these standards established pursuant to CEQA Guidelines Section 15063.4(b) in Section 3.15.3, Thresholds of Significance, Threshold #2.

Local

SANDAG's San Diego Forward: The Regional Plan

The SANDAG San Diego Forward: The Regional Plan (Regional Plan) (SANDAG 2015) combines the region's two most important existing planning documents—the Regional Comprehensive Plan and the Regional Transportation Plan and its Sustainable Communities Strategy. The Regional Comprehensive Plan, adopted in 2004, laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covered eight policy areas, including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity. These policy areas were addressed in the 2050 Regional Transportation Plan/Sustainable Communities Strategy and are now fully integrated into the Regional Plan (SANDAG 2021).

The SANDAG Board of Directors adopted the 2021 Regional Plan on December 10, 2021. The 2021 Regional Plan is a 30-year plan that considers growth, movement and residential location around the region. The 2021 Regional Plan combines the regional Transportation Plan, Sustainable Communities Strategy, and Regional Comprehensive Plan. As such, the 2021 Regional Plan must comply with specific state and feral mandates. These include a Sustainable Communities Strategy, per California SB 375, that achieves greenhouse gas emissions reduction targets set by the California Air Resources Board, compliance with federal civil rights requirements (Title VI); environmental justice considerations; air quality conformity; and public participation (SANDAG 2021).

Congestion Management Program

The 2008 Congestion Management Program for San Diego County was developed to meet the requirements of Section 65089 of the California Government Code. Since that time, the local agencies within San Diego County elected to opt out of the Congestion Management Program requirements, as allowed within the Government Code. As such, there are no specific requirements associated with this project in the Congestion Management Program. However, to ensure the region's continued compliance with the federal congestion management process, SANDAG prepared San Diego Forward:

The Regional Plan (SANDAG 2021) in compliance with 23 Code of Federal Regulations 450.320. The Regional Plan incorporates performance monitoring and measurement of the regional transportation system, multimodal alternatives to single-occupancy vehicles, land use impact analysis, congestion management tools, and Integration with the Regional Transportation Improvement Program process.

The City of San Marcos Bikeway Master Plan

The Bikeway Master Plan (City of San Marcos 2015) is an update to the City's original master plan adopted in 2001. Goals of the master plan were to obtain State Bicycle Transportation Account grant funds and improve bicycle facilities throughout the city for safer routes to school, connections to adjacent cities and incorporate an environmental inventory analysis. One of the goals of the master plan was to connect the City's trails to bicycle facilities to complete a safe and enjoyable trail and bikeway system.

City of San Marcos General Plan

Land Use and Community Design Element

The Land Use and Community Design Element of the General Plan identifies specific policies related to congestion management. Those that are applicable to the project are identified below (City of San Marcos 2012b):

- **Policy LU-3.7:** Require new development to prepare traffic demand management programs.
- **Policy LU-3.8:** Require new development and discretionary actions to annex into a Congestion Management Community Facilities District.

Mobility Element

The Mobility Element of the General Plan identifies specific goals and policies related to an efficient circulation system, traffic calming and safety, and alternative modes of travel. Those that are applicable to the project are identified below (City of San Marcos 2012a):

- **Goal M-1:** Provide a comprehensive multimodal circulation system that serves the City land uses and provides for the safe and effective movement of people and goods.
  - **Policy M-1.1:** Safely and efficiently accommodate traffic generated by development and redevelopment associated with implementation of the General Plan Land Use Policy Map.
  - **Policy M-1.2:** Require new development to finance and construct internal adjacent roadway circulation and City-wide improvements as necessary to mitigate project impacts, including roadway, transit, pedestrian and bicycle facilities.

- **Policy M-1.3:** Require new developments to prepare and implement Transportation Demand Management (TDM) programs to minimize vehicle trip generation and promote alternative modes of travel within the City.
- **Policy M-1.4:** Utilize multi-modal LOS techniques to evaluate transportation facilities. For identified prioritized modes (based on facility typology), provide the following minimum LOS as shown in Table 3-4 of the Mobility Element:
  - LOS D or better for Vehicles as a prioritized mode

    –Generally, provides facilities that have minimum vehicle congestion during peak periods. Most motorists are delayed less than 55 seconds at a signal (or less than one signalized cycle).
  - The City shall allow for flexible LOS where warranted (e.g., accepting a lower LOS than identified above).
- **Policy M-1.6:** Work to improve connectivity within the City by closing gaps in the existing bicycle, pedestrian, trail, transit, and roadway network. Work with new development to provide connectivity and redundancy in the mobility network.
- **Policy M-1.7:** Strive to ensure that streets within San Marcos shall be complete streets where feasible; thereby providing accessibility, safety, connectivity, and comfort for all modes and users of the system. Appropriate new local streets and Main Streets will prioritize pedestrian and bicycle users through the corridor.

- **Goal M-2:** Protect neighborhoods by improving safety for all modes of travel and calming traffic where appropriate.
  - **Policy M-2.1:** Work with new development to design roadways that minimize traffic volumes and/or speed, as appropriate within residential neighborhoods; while maintaining the City's desire to provide connectivity on the roadway network.
  - **Policy M-2.3:** Consider roundabouts, as appropriate, as an intersection control device with demonstrated air quality, traffic efficiency, and safety benefits.
- **Goal M-3:** Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs), and walking, within the City.
  - **Policy M-3.1:** Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and greenhouse gas emissions; and reinforces the role of the street as a public space that unites the City.
  - **Policy M-3.2:** Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians through design, maintenance and law enforcement. Install wider sidewalks and curb extensions at pedestrian crossings (bulb outs) where appropriate.

- **Policy M-3.3:** Provide a pedestrian and bicycle network in existing and new neighborhoods that facilitates convenient and continuous pedestrian and bicycle travel free of major impediments and obstacles.
- **Policy M-3.5:** Ensure that streets in areas with high levels of pedestrian activity (such as employment centers, residential areas, mixed use areas, and schools) support safe pedestrian travel by providing detached sidewalks, bulb-outs, enhanced pedestrian crossings, pedestrian bridges, and medians.
- **Policy M-3.9:** Create a pleasant walking environment for roadway typologies where pedestrian travel is prioritized. This includes providing shade trees, landscaping, benches, pedestrian-scale lighting, way-finding signage, transit shelters, and other appropriate amenities.

3.15.3 Thresholds of Significance

Appendix G of the CEQA Guidelines provides thresholds for determining significant environmental impacts. A project may be deemed to have a significant impact on transportation/traffic if it would:

- **Threshold #1:** Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- **Threshold #2:** Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- **Threshold #3:** Substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment).
- **Threshold #4:** Result in inadequate emergency access.

3.15.4 Project Impact Analysis

The following discussion summarizes the findings of the LTA (Appendix I-1) as it relates to project trip generation, project trip distribution and assignment, Near-Term (Year 2023) Scenarios with and without the project, and Horizon Year (Year 2050) Scenarios with and without the project. The discussion herein supports the findings of the project impact analysis.

Project Trip Generation

As described in Chapter 2, Project Description, of this EIR, the project proposes development of a light industrial building and associated improvements. Per the City's TIAG, trip generation rates should be derived from SANDAG's (not so) Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). However, the project is acting as an "expansion" of the existing Hughes Circuits facility located across the street from the project site, with similar operations except the project would operate with two shifts instead of three (two 8-hour shifts, 5 days a week). Therefore, a trip generation study was conducted at the existing Hughes Circuits facility.

Table 3.15-5 tabulates the total project traffic generation. The project is estimated to generate a net total of 348 daily trips with 38 AM peak-hour trips (32 inbound and 6 outbound) and 43 PM peak hour trips (9 inbound and 34 outbound).

Table 3.15-5
Project Trip Generation

Land Use	Average Daily Traffic	AM Peak Hour			PM Peak Hour		
		Trips	*In*	*Out*	*Trips*	*In*	*Out*
Hughes Circuits	348	38	32	6	43	9	34

Source: LTA, included as Appendix I-1 to this EIR.

Project Trip Distribution/Assignment

Trip distribution is the process of determining traffic percentage splits on the regional and local roadway network. Trip distribution is determined based on the characteristics of the project and upon the general location of other land uses to which project trips would originate or terminate, such as employment, housing, schools, recreation and shopping.

The project trip distribution was manually developed based on the geographical location of the project, as well as the characteristics of the proposed and surrounding land uses. Figure 3.1 in the LTA (Appendix I-1) shows the regional trip distribution patterns for project trips; Figure 3.2 in Appendix I-1 shows the daily and AM/PM peak hour project trip assignment.

Additionally, please refer to Table 6.1 through Table 6.4 in Appendix I-1, which show intersection and street segment operations both with and without the project.

Near Term Year 2024 Conditions

This section describes Near-Term Year 2024 Base traffic conditions both with and without the project. The adjacent Upham/Pacific project will install a traffic signal at the study intersection of South Pacific Street and Linda Vista Drive, as well as convert Linda Vista Drive, between South Pacific Street and Las Posas Road to a 3-lane roadway with a 12-foot urban trail (shared use path). However, due to the uncertainty of the opening year for the Upham/Pacific project, these roadway and intersection modifications were not assumed under Near-Term Year 2024 Base conditions. Roadway segment functional classifications and intersection geometrics under Near-Term Year 2024 Base conditions were assumed to be identical to Existing conditions (Appendix I-1). As outlined in the LTA (Appendix I-1), all study roadway segments are projected to operate at acceptable LOS D or better under Near-Term Year 2024 Base conditions. Additionally, the intersection of South Pacific Street and Linda Vista Drive is projected to operate at unacceptable LOS F during the PM peak hour.

Near Term (Interim Year 2023) with Project Conditions

Roadway segment functional classifications and intersection geometrics under Near-Term Year 2024 Base with Project conditions were assumed to be identical to Near-Term Year 2024 Base conditions, with the exception of the two project driveways along South Pacific Street. These new driveways will operate as side-street stop-controlled intersections, with the South Pacific Street approaches as uncontrolled and the project driveways as stop-controlled.

Traffic volumes for Near-Term Year 2024 Base with Project conditions were derived by combining the project trips (Figure 3.2 in Appendix I-1) to the Near-Term Year 2024 Base traffic volumes (Figure 6.2 in Appendix I-1). Figure 6.3 in Appendix I-1 displays the projected daily traffic volumes for study roadway segments and projected AM/PM peak-hour turning movements for study intersections under Near-Term Year 2024 Base with Project conditions. As outlined in Section 6.5 of Appendix I-1, all study roadway segments are projected to operate at acceptable LOS D or better under Near-Term Year 2024 Base with Project conditions. Additionally, both study intersections are projected to operate at acceptable LOS C or better under Near-Term Year 2024 Base with Project conditions, with the exception of the following:

- South Pacific Street and Linda Vista Drive – LOS F during the PM peak hour.

This intersection is projected to operate at unacceptable LOS F prior to the implementation of the project. Project traffic would not increase the overall average delay at this intersection by more than 2 seconds. Therefore, no study intersections are anticipated to degrade in LOS to unacceptable levels with implementation of the project and no improvements will be required.

Horizon Year 2050 Conditions

Horizon Year 2050 average daily traffic forecasts were obtained from the SANDAG Series 14 ABM2+/2021 RP Forecast Year 2050 Model (scenario ID#459) (SANDAG 2022). The model represents a conservative scenario where the study segments of Linda Vista Drive and South Pacific Street are assumed to be four-lane roadways. As a result, the model's traffic volumes at these segments are significantly higher than under Existing and Near-Term Year 2023 Base conditions.

The General Plan Mobility Element identifies Linda Vista Drive as a 4-Lane Arterial Roadway, but it does not identify South Pacific Street as a 4-lane roadway or circulation element road (City of San Marcos 2012a). However, the Forecast Year 2050 Model identifies both Linda Vista Drive and South Pacific Street as 4-Lane roadways. While the Forecast Year 2050 Model is consistent with the City's General Plan for the segment of Linda Vista Drive west of South Pacific Street, the current right-of-way is already being used to provide needed parking for Bradley Park along the south side and a Class II bike lane along the north side. Converting or widening Linda Vista Drive or South Pacific Street to four-lane roadways would require additional right-of-way, which would need to be acquired via eminent

domain or by removing existing parking and/or active transportation facilities. This approach would be inconsistent with the City's General Plan Mobility Element Policy M-1.6 and M-1.7, as well as potentially cause an environmental impact due to the induced growth associated with a roadway widening. Linda Vista Drive and South Pacific Street have the potential to act as cut-through roadways and adding through capacity may encourage additional vehicular trips and increase VMT.

Roadway segment functional classifications and intersection geometrics under Horizon Year 2050 conditions were assumed to be identical to Existing conditions (see Figure 7.1 in Appendix I-1). As a conservative approach, Forecast Year 2050 Model traffic volumes were used as-is for the roadway segment LOS analysis. Intersection turning movement volumes were developed by determining the growth per approach based on existing and forecasted average daily traffic. Projected AM/PM peak hour turning movements were then distributed based on existing travel patterns and balanced utilizing engineering judgement.

Figure 7.1 in Appendix I-1 displays the projected daily traffic volumes for study roadway segments and the projected AM/PM peak hour turning movements for study intersections under Horizon Year 2050 conditions. As outlined in Section 7.2 of Appendix I-1, the following study roadway segments are projected to operate at unacceptable LOS F under Horizon Year 2050 conditions:

- Linda Vista Drive, between South Rancho Santa Fe Road and South Pacific Street
- South Pacific Street, between Linda Vista Drive and West San Marcos Boulevard

Additionally, the intersection of South Pacific Street and Linda Vista Drive is projected to operate at unacceptable LOS F during the PM peak hour under Horizon Year 2050 conditions.

Horizon Year 2050 with Project Conditions

Roadway segment functional classifications and intersection geometrics under Horizon Year 2050 with Project conditions were assumed to be identical to Horizon Year 2050 conditions, with the exception of the project driveways along South Pacific Street, as discussed previously under Near-Term Year 2023 Base with Project conditions. Traffic volumes for the Horizon Year 2050 with Project Conditions were derived by combining the project trips (see Figure 3.1 in Appendix I-1) to the Horizon Year 2050 traffic volumes (see Figure 7.1 in Appendix I-1). Figure 7.2 in Appendix I-1 displays the projected daily traffic volumes for study roadway segments and the projected AM/PM peak hour turning movements for study intersections under Horizon Year 2050 with Project conditions.

As outlined in Appendix I-1, the following study roadway segments are projected to operate at unacceptable LOS F under Horizon Year 2050 conditions:

- Linda Vista Drive, between South Rancho Santa Fe Road and South Pacific Street
- South Pacific Street, between Linda Vista Drive and Project Driveway #1

- South Pacific Street, between Project Driveway #1 and Project Driveway #2
- South Pacific Street, between Project Driveway #2 and West San Marcos Boulevard

The roadway segments of Linda Vista Drive, between South Rancho Santa Fe Road and South Pacific Street, and South Pacific Street, between Project Driveway #1 and Project Driveway #2, are projected to continue operating unacceptable LOS F. However, since the increase in vehicle-to-capacity ratio does not exceed 0.02, these study roadway segments would not experience a decrease in performance by the implementation of the project.

As for the remaining two segments projected to operate at LOS F, the project would result in an increase in vehicle-to-capacity ratio exceeding 0.02. Therefore, the project would require improvements to increase performance to acceptable or pre-project conditions.

Table 3.15-6 displays roadway segment LOS analysis results for study roadway segments under Horizon Year 2050 with Project Conditions.

Table 3.15-6
Roadway Segment LOS Results – Horizon Year 2050 with Project Conditions

Roadway	Segment	Functional Classification	Roadway Capacity	Horizon Year 2050 with Project			Horizon Year 2050 Without Project			ΔV/C
				Daily Volume	*V/C*	*LOS*	*Daily Volume*	*V/C*	*LOS*	
Linda Vista Drive	South Rancho Santa Fe Road to South Pacific Street	2-Lane Collector (w/CLTL)	15,000	19,370	1.291	**F**	19,300	1.287	**F**	0.004
Linda Vista Drive	South Pacific Street to South Las Posas Road	3-Lane Secondary Arterial Collector (w/CLTL)	22,500[1]	17,104	0.760	D	17,000	0.756	D	0.004
South Pacific Street	Linda Vista Drive to Project Parkway #1	2-Lane Collector (w/Commercial Fronting)	8,000	8,674	1.084	**F**	8,500	1.063	**F**	0.021
South Pacific Street	Project Driveway #1 to Project Driveway #2	2-Lane Collector (w/Commercial Fronting)	8,000	8,500	1.063	**F**	8,500	1.063	**F**	0.000
South Pacific Street	Project Driveway #2 to West San Marcos Boulevard	2-Lane Collector (w/Commercial Fronting)	8,000	8,674	1.084	**F**	8,500	1.063	**F**	0.021

Notes: V/C = vehicle-to-capacity; LOS = level of service
Bold indicates LOS E or F
[1] Based on the capacity of a 4-Lane Secondary Arterial/Collector, reduced to exclude a lane. (3/4*30,000 = 22,500)

As shown, the intersection of South Pacific Street and Linda Vista Drive is projected to operate at unacceptable LOS F during the PM peak hour under Horizon Year 2050 with Project conditions. Because the project would add more than 2 seconds of delay to this intersection already operating at LOS F, implementation of the project would degrade performance at this intersection and would require improvements to increase performance to acceptable or pre-project conditions.

As outlined in Appendix I-1, since these study roadway segments are projected to operate efficiently during peak hours, implementation of the project would not result in adverse effects on traffic operations and no improvements are required. For the studied intersections, the recommended traffic signal would improve traffic operations during the PM peak hour to better than pre-project conditions.

To determine if signalizing the intersection of South Pacific Street and Linda Vista Drive is warranted, a signal warrant analysis was conducted in accordance with the California Manual on Uniform Traffic Control Devices (Caltrans 2023). Using the traffic volumes projected under Horizon Year 2050 conditions, this intersection would meet the requirements for the installation of a traffic signal. Therefore, it is recommended that the project pay a 1.6% fair share contribution toward the installation of a traffic signal.

However, if the Upham/Pacific project constructs a traffic signal at the intersection of South Pacific Street and Linda Vista Drive as part of their project, the project would not be required to pay a 1.6% fair share contribution toward the installation of a traffic signal at this intersection.

Threshold #1. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The project site is immediately bordered by South Pacific Street to the south and west. Adjacent land uses include industrial and mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is SR-78, located approximately 0.7 miles north of the project site.

Access to the project from the regional transportation network will be provided via SR-78, South Rancho Santa Fe Road, Linda Vista Drive, South Pacific Street, South Las Posas Road, and West San Marcos Boulevard. These facilities will either provide a direct connection to the project, via a project driveway, or will provide a critical link between the project and the regional transportation network.

Project site access would be provided via the following new project driveways:

- Project Driveway #1 – This new full-access driveway will be located along the east side of South Pacific Street to the west of the project site. This driveway will be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project

driveway as the stop-controlled approach. This driveway is projected to operate at LOS A or under all "with project" scenarios.

- Project Driveway #2 – This new full-access driveway will be located along the north side of South Pacific Street to the south of the project site. This driveway will be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project driveway as the stop-controlled approach. This driveway is projected to operate at LOS B or better under all "with project" scenarios.

A 95th percentile queue analysis was conducted to determine the extent of queueing at the project driveway intersections under Near-Term Year 2023 Base with Project conditions and Horizon Year 2050 with Project conditions. The queue analysis was conducted for the project driveways and the movements along South Pacific Street. The 95th percentile queues at project driveways are projected to fit within the available storage and would not impede traffic at the driveways or adjacent roadway system. As outlined in Appendix I-1, it is recommended that the project driveways are constructed in accordance with City standards, and that stop signs are installed at project driveways.

The internal roadway on the project site would allow for two-way flow of vehicle traffic. The LTA recommends that the project incorporate appropriate signage to warn drivers of pedestrian foot traffic, and consider installation of speed cushions/bumps along the internal roadway to calm traffic.

Sidewalks are proposed along the segment of South Pacific Street fronting the project. Sidewalks are also proposed throughout the internal roadways providing direct access to the proposed building. The LTA recommends that the project construct curb ramps located along project driveways to include detectable surface warning tactiles (yellow truncated domes) and meet all Americans with Disabilities (ADA) requirements.

The project would implement Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos Boulevard. This bicycle facility would increase the number of opportunities to ride within the City and provide a direct connection between the Class I Bike Paths proposed along Linda Vista Drive and West San Marcos Boulevard. The proposed Class II bicycle lanes will have a 1.5-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited.

Implementation of the recommendations in the LTA would enhance the walkability and safety of the overall pedestrian environment and would not result in any impacts to pedestrian facilities. The project would incorporate all recommendations of the LTA (Appendix I-1). Furthermore, as outlined under Section 3.15.1, Existing Conditions, the project would not conflict with existing or planned transit facilities and would not result in any impacts to transit facilities; similarly, the project would not conflict with existing or planned bicycle facilities and would not result in any impacts to bicycle facilities.

The site is located in an area with moderately high employment density given the surrounding commercial and light industrial land uses. The project site is located within close proximity (less than a mile) from bus stops serving two separate routes with connections to Sprinter service at Palomar College Station.

Parking for the proposed building would include 72 parking spaces, including 4 electric vehicle (EV) charging stations, 3 EV-ready parking spaces, 9 clean air vehicle parking stalls, 5 accessible stalls, and 1 U.S. Postal Service parking stall. Additionally, 4 short-term bicycle parking spaces and 4 long-term bicycle parking spaces would be provided.

As discussed above, a Local Transportation Analysis (see Appendix I-1) has been prepared for the project consistent with City requirements to evaluate the effects of the project on the circulation network (LOS), and improvements have been recommended that would increase performance of unacceptable roadways/intersections to acceptable or pre-project conditions.

The project is consistent with SANDAG's San Diego Forward: The Regional Plan policies and strategies to manage congestion, as it would develop in an infill area, and the project would incorporate safe access to/from the project site and surrounding roadways. The project would also not preclude the development of any specific improvement projects identified in the Regional Plan to reduce regional congestion. Therefore, impacts would be **less than significant.**

Threshold #2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As discussed above, CEQA Guidelines Section 15064.3 replaces LOS with VMT as the appropriate metric to be used in assessing a project's transportation related impacts. Under CEQA Guidelines Section 15063.4(b)(1), vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. However, development projects within 0.5 miles of a major transit stop are presumed to cause a less-than-significant transportation impact (under Public Resource Code Section 21064.3, a "Major transit stop means a site containing an existing rail station"). Despite the project being consistent with the designated land use and zoning for the project site, the project is not located within 0.5 miles of a major transit stop (Palomar Station), and the project would not be screened out of a quantitative VMT analysis. The North County Transit District Palomar College Station Sprinter and Breeze transit station is located approximately 1.2 miles northeast of the project site, while the closest bus stops on West San Marcos Boulevard are located approximately 0.25 miles south. Furthermore, based on the screening criteria in the City's TIAG, the project does not fall under any of the VMT screening criteria and requires a detailed VMT analysis (Appendix I-2).

As outlined in Appendix I-2, the project's VMT per employee was obtained from the SANDAG VMT screening maps. Per the City's TIAG, an employee project is determined to have a significant impact if

the project generates VMT per employee greater than 85% of the regional average. The regional average VMT was determined using the SANDAG Series 14 ABM2+/2021 RP Year 2016 Base model.

As shown in Table 3.15-7, the project is anticipated to generate a VMT per employee of 16.80 miles, which exceeds the significance threshold of 16.07 miles. Therefore, the project would have a significant VMT impact and mitigation measures are required to reduce the VMT per employee (Impact TRA-1).

Table 3.15-7
Vehicle Miles Traveled Impact Analysis

Metric	Regional Average [1]	Significance Threshold (15% below Average)[2]	Project[1]	Transportation Impact? (Over Threshold)
Vehicle Miles Traveled per Employee	18.90	16.07	16.80	**Yes**

Notes:
1 Source = SANDAG Series 14 ABM2+/2021 RP Year 2016 Base Model
2 Regional Average x 85%

The project's VMT per employee is not anticipated to fall under the significance threshold as the project site is located in an area primarily composed of industrial and commercial land uses where employees travel longer-than-average distances for work compared to the region. The project's total VMT per employee is 16.80 miles. To mitigate the project's VMT to less-than-significant levels, mitigation measures would need to reduce the total VMT per employee by 4.4% from 16.80 miles to 16.07 miles.

As described in Appendix I-2, to reduce the average VMT per employee, it is recommended that the project implements a TDM Program. A TDM program would facilitate increased opportunities for walking and bicycling, as well as provide the resources, means, and incentives for ridesharing and carpooling. The SANDAG Mobility Management Guidebook/VMT Reduction Tool was taken into consideration initially; however, the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity is a more recent document (CAPCOA 2021) and was deemed appropriate to use for the project's mitigation evaluation.

Mitigation Measure (MM-)TRA-1, MM-TRA-2, and MM-TRA-3 are proposed for the project, as outlined in Section 3.15.6, Mitigation Measures. Based on the VMT reduction results, implementation of the TDM Program is anticipated to reduce the VMT per-capita generated by 2.6%. Thus, with implementation of the TDM Program, the project is anticipated to generate 16.36 VMT per employee. The resulting 16.36 miles per employee exceeds the 16.07 miles threshold. Therefore, since the mitigation measures would not reduce the VMT per employee to less-than-significant levels, the impact is only partially mitigated, and the project is considered to have a significant and partially mitigated

impact. Therefore, despite implementation of MM-TRA-1, MM-TRA-2, and MM-TRA-3, impacts would be **significant and unavoidable**.

Threshold #3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project site is located in an area surrounded by development, off South Pacific Street. As described under Threshold #1, the project would be served by two driveways. Project Driveway #1 would be located along the east side of South Pacific Street to the west of the project site. This driveway would be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project driveway as the stop-controlled approach. Project Driveway #2 would be located along the north side of South Pacific Street to the south of the project site. This driveway will be a new side-street stop-controlled intersection with South Pacific Street as the uncontrolled approach and the project driveway as the stop-controlled approach. As outlined in Appendix I-1, the project would not impede traffic at the driveways or adjacent roadway system. It is recommended that the project driveways are constructed in accordance with City standards, and that stop signs are installed at project driveways.

The internal roadway on the project site would allow for two-way flow of vehicle traffic. The LTA recommends that the project incorporate appropriate signage to warn drivers of pedestrian foot traffic, and consider installation of speed cushions/bumps along the internal roadway to calm traffic. Furthermore, sidewalks are proposed along the segment of South Pacific Street fronting the project. Sidewalks are also proposed throughout the internal roadways providing direct access to the proposed building. The LTA recommends that the project construct curb ramps located along project driveways to include detectable surface warning tactiles (yellow truncated domes) and meet all ADA requirements.

Implementation of the recommendations in the LTA would enhance the walkability and safety of the overall pedestrian environment and would not result in any impacts to pedestrian facilities. The project would incorporate all recommendations of the LTA (Appendix I-1). Furthermore, as outlined under Section 3.15.1, the project would not conflict with existing or planned transit facilities and would not result in any impacts to transit facilities; similarly, the project would not conflict with existing or planned bicycle facilities and would not result in any impacts to bicycle facilities.

All final project plans and the LTA prepared for the project (included as Appendix I-1 to this EIR) are subject to review and approval by the City and the San Marcos Fire Department. Proposed circulation improvements per the LTA would be designed in accordance with the City's roadway design standards to ensure proper safety requirements are met. All uses on site, including vehicle, pedestrian and bicycle circulation would be typical of such a development, and no incompatible uses, or equipment is proposed. As such, impacts would be **less than significant**.

Threshold #4: Would the project result in inadequate emergency access?

As described in response to Threshold #3, the project would be served by two driveways located on South Pacific Street. All driveways would provide for full turning movements. According to the General Plan Safety Element, the San Marcos Emergency Operations Plan governs the operations of the City during a disaster. This plan addresses response to moderate evacuation scenarios, including the identification of evacuation points and general routes (City of San Marcos 2012c). The project would be required to abide by standards as set forth in the San Marcos Emergency Operations Plan. Implementation of the project would not impact any roadway or staging areas that are identified in any emergency planning documents and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Additionally, as described in Section 3.13, Public Services, of this EIR, the Preliminary Fire Emergency Response Analysis prepared for the project (Appendix H) determined that the San Marcos Fire Department would arrive at the project site between 3:37- and 3:50-minute travel time (6:07- to 6:40-minute total response time). This results in up to 53 seconds to drive within the project site to the most remote unit, which is achievable based on the project site's roads and smaller overall size. The Fire Service Response Analysis prepared for the project (Appendix H) determined that the San Marcos Fire Department could provide emergency response to the project site within its internal 7-minute response time from Stations 1 and 2.

Furthermore, the California Fire Code, along with the San Marcos Fire Department, administers the rules and regulations on fire access design. Final site plans will be required to show fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, Section 503.1 through 503.4 of the California Fire Code), an adequate number of emergency rated entrances to the community (Appendix D, Section D106 of the California Fire Code). All final project plans and the LTA prepared for the project are subject to review and approval by the City and the San Marcos Fire Department. Proposed circulation improvements would be designed in accordance with the City's roadway design standards to ensure proper safety requirements are met. Therefore, for the reasons outlined above, it is determined that impacts related to emergency access would be **less than significant.**

3.15.5 Cumulative Impact Analysis

The project in addition to cumulative projects in the study area could result in cumulative impacts related to transportation and circulation. However, the preceding analysis of the project in Section 3.15.4, Project Impact Analysis, as well as the LTA prepared for the project (Appendix I-1) is based on methodologies that incorporate the cumulative impacts of traffic from forecasted grow within the project area. Cumulative project traffic was assigned to the project study area as identified within their respective traffic studies provided by the City. Cumulative project traffic without completed traffic studies were assigned to the project study area utilizing the same methodology used for the project, consistent with the City's TIAG.

It is expected that traffic impact analyses, local transportation analyses, and vehicle miles traveled analyses would be prepared for cumulative projects consistent with City Guidelines, to fully analyze project-specific impacts on-site and in the study area, and provide mitigation measures, design features, or improvements recommendations to address any potentially significant impacts. Furthermore, all cumulative projects would be required to comply with applicable City regulations related to transportation and circulation, as the project does. As analyzed in Section 3.15.4, implementation of the project would result in a significant VMT impact in the study area. For this reason, it is determined that cumulative impacts to transportation as a result of project implementation would similarly be **significant and unavoidable**.

3.15.6 Mitigation Measures

As analyzed in Section 3.15.4, implementation of the project would result in significant impacts related to VMT per employee. MM-TRA-1, MM-TRA-2, and MM-TRA-3 outlined below would reduce impacts related to the VMT per resident, but not to a level of less than significant. Therefore, even with implementation of these mitigation measures, project VMT would remain significant.

MM-TRA-1 **Provide Ridesharing Program (CAPCOA T-8).** This measure would implement a ridesharing program for employees. The program shall include desirable parking spaces for ridesharing vehicles, adequate passenger loading/unloading and waiting areas for ridesharing vehicles, and an app/website for ride coordination. This measure would reduce up to 2.0% Employee VMT with 50% employee eligibility.

MM-TRA-2 **Provide End-of-Trip Bicycle Facilities (CAPCOA T-10)**. This measure would install and maintain end-of-trip facilities for employee use, including bike parking, bike lockers, showers, and personal lockers. This measure would reduce up to 0.6% Employee VMT.

MM-TRA-3 **Expand Bikeway Network (CAPCOA T-20)**. This measure would increase the length of a city or community bikeway network by providing bicycle infrastructure (Class I, Class II, or Class IV). More specifically, the project would construct 0.5 miles of Class II bicycle facilities along South Pacific Street between Linda Vista Drive and West San Marcos Boulevard. This bicycle facility would increase the existing bicycle lane miles within the City of San Marcos from 41.1 miles to 41.6 miles. The bike facility would provide additional opportunities to ride within the City and provide a direct connection between the Class I Bike Paths proposed along Linda Vista Drive and West San Marcos Boulevard. The proposed Class II bicycle lanes would have a 1 ½-foot buffer where on-street parking is allowed and a 3-foot buffer where on-street parking is prohibited. This measure would reduce up to 0.0001% Employee VMT.

In addition to MM-TRA-1, MM-TRA-2, and MM-TRA3, the following improvement recommendation proposed by the VMT Analysis Memorandum (Appendix I-2) would be incorporated as conditions of

approval which have the potential to reduce greenhouse gas emissions; however, it is not considered a mitigation measure because it would not reduce VMT:

- **Provide Electric Vehicle Charging Infrastructure (CAPCOA T-14) – Install electric vehicle charging stations at EV parking spaces.** The project would install 4 electric vehicle charging stations and 3 EV-ready parking spaces. There are also 9 parking spaces designated for clean air vehicles.

3.15.7 Conclusion

The project would develop an industrial building in an infill area, taking advantage of the site's location near transit, and compatible land uses, consistent with the land use and zoning designation for the project site. The project would be consistent with programs, plans, ordinances and policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Implementation of the project would not conflict with any applicable plans or policies addressing circulation, would not increase hazards, and would not result in inadequate emergency access. Impacts related to Thresholds # 1, 3, and 4 would be less than significant.

As described in response to Threshold #2, based on the VMT reduction results, implementation of the TDM Program is anticipated to reduce the VMT per-capita generated per employee by 2.6%. Thus, with implementation of the TDM Program, the project is anticipated to generate 16.36 VMT per employee. The resulting 16.36 miles per employee exceeds the 16.07 miles threshold. Therefore, since the mitigation measures would not fully reduce the VMT per employee to less than significant levels, the impact is only partially mitigated, and the project is considered to have a significant and partially mitigated impact. Therefore, even with implementation of MM-TRA-1 and MM-TRA-2, impacts related to VMT would be **significant and unavoidable**. As such, cumulative impacts related to traffic would similarly be significant and unavoidable.

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3.16 TRIBAL CULTURAL RESOURCES

This section describes the existing tribal cultural resources of the Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project. As defined by California Public Resources Code (PRC) Section 21074, a tribal cultural resource is a site, feature, place, or 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 (1) either on or eligible for the California Register of Historical Resources (CRHR) or a local historic register, or (2) determined by the City of San Marcos (City), at its discretion to treat the resources as a tribal cultural resource (PRC Section 5024.1).

The analysis in this section relies, in part, on the Archaeological Resource Inventory Report for the Hughes Circuits Project, City of San Marcos, California (Archaeological Resources Report), prepared by Dudek on January 13, 2023. The analysis also considers the California Environmental Quality Act (CEQA) Guidelines Appendix G and applicable state and local regulations, including the City of San Marcos General Plan. The Archaeological Resources Report is included as Appendix D to this environmental impact report (EIR).

Table 3.16-1 summarizes the tribal cultural resources project- and cumulative-level impacts, by threshold.

Table 3.16-1
Tribal Cultural Resources Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1 – Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) 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 b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant	Less than Significant	Less than Significant

3.16.1 Existing Conditions

The project area, as analyzed in the Archaeological Resources Report, consists of the entire of the project site, approximately 10.46 acres (Assessor's Parcel Numbers 219-223-20-00 and 219-223-22-00) (Figure 3.16-1). The entire project area is undeveloped and contains no structures.

The project area predominantly contains grass, thistles, Hardy ice plants, and sage. Modern debris (e.g., refuse) is strewn throughout the project area and a homeless encampment was observed in the bushes on the northwestern portion of the project area. Adjacent land uses include mixed commercial development to the north and south, a public recreation park (Bradley Park) to the west, and undeveloped land to the east. The project area is relatively flat~~;~~. and a parcel of land owned by the San Diego County Water Authority ~~right of way~~ and a dirt walking path bisect the site. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the project area to 535 feet above mean sea level in the northwest portion of the project area. The Las Posas Branch tributary to San Marcos Creek is located on the border of the western section of the project area, and a second tributary runs through the project area on the eastern side to San Marcos Creek.

The information herein describes the existing archeological context of the project area. It also provides information on the outreach and consultation efforts with local tribes, as required by existing regulations.

Prehistoric Context

Evidence for continuous human occupation in the San Diego County region spans the last 12,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition from an archaeological perspective: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750). Native American aboriginal lifeways did not cease at European contact. "Protohistoric" refers to the chronological trend of continued Native American aboriginal lifeways at the cusp of the recorded historic period in the Americas. The tribal cultural context spans all of the archaeologically based chronologies further described below.

Paleoindian Period (pre-5500 BC)

Evidence for Paleoindian occupation in coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from P-37-004669 (CA-SDI-4669), in La Jolla. A

human burial from P-37-004669 was radiocarbon dated to 9,590–9,920 years before present (approximately 95% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basin stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter–gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 Before Present [BP]) that submerged as much as 1.8 kilometers of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as P-37-000210 (CA-SDI-210) along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). P-37-000210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex P-37-000149 (CA-SDI-149) is representative of typical Paleoindian occupation in the San Diego County region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego County region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego County region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

Archaic Period (8,000 BC – AD 500)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego County region. If San Dieguito is the only recognized Paleoindian component in the San Diego County region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego County region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego County region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

Late Prehistoric Period (AD 500 – 1769)

The period of time following the Archaic and prior to Ethnohistoric times (AD 1750) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 1978). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey complex difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego County region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450.

Ethnohistoric Period (post-AD 1769)

Early descriptions of the lifeways of Southern California ethnohistoric groups were provided by explorers, missionaries, administrators, and other travelers, who gave particular attention to the coastal populations (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). Subsequent ethnographers in the early twentieth century were able to give much more objective, detailed, and penetrating accounts. Most of the ethnographers attempted to distinguish between observations of the customs of surviving Native Americans and orally transmitted or inferred information concerning the lifeways of native groups prior to European intrusion into the region. The second of these subjects provides a terminal baseline for discussing the cultures of the region's prehistory. Despite the relatively rich ethnographic record, attempts to distinguish between the archaeological residues that were produced by the linguistically unrelated but culturally similar Luiseño and Ipai/Kumeyaay have been largely unsuccessful (Pigniolo 2004; True 1966).

The first systematic ethnographic work in California was done in 1871 and 1872 by Stephen Powers (Heizer 1978); in 1877, Powers collected and printed his ethnographic observations in Tribes of

California (Powers 1877). Prior to the work of Powers, there were limited records and accounts that might be broadly considered as ethnohistorical data, such as Boscana (1846). At the beginning of the twentieth century, Alfred L. Kroeber and others began four decades of systematic documentation of tribal ethnographies. Kroeber's (1925) monumental work on the Indians of California continues to be an authoritative source of information. It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California. Nonetheless, the enormous value of the ethnographies done under Kroeber's guidance is obvious. The major sources for this review include Lowell John Bean and Florence C. Shipek (1978), Kroeber (1925), Philip S. Sparkman (1908), and Raymond White (1963).

San Marcos is situated within the ethnohistoric territory of the Native American Luiseño cultural group, according to Kroeber's study (1925; see also Rivers 1993). The Luiseño language belongs to the Cupan group of the Takic language branch of the Uto-Aztecan language family. Luiseño is a term given to Native Americans under the administration of Mission San Luis Rey, and later applied specifically to the Payomkawichum ethnic nation who were present in the region where the mission was founded. Meaning the "western people," the name Payomkawichum can also be applied to the closely related coastal Luiseño who lived north of the mission.

Luiseño territory was situated in the north half of San Diego County and the western edge of Riverside County. Their lands encompassed the southern Santa Margarita Mountains and the Palomar Mountains, and their foothills to the Pacific Ocean. The territory extended eastward into the San Jacinto Valley and the western foothills of the San Jacinto Mountains. Their neighbors to the north were the Juaneño (Acjachemen) who spoke a Luiseño dialect, the Cahuilla and Cupeño to the east who spoke other Takic Cupan languages, and the Ipai (Kumeyaay) to the south who spoke a California-Delta Yuman language.

The Luiseño resided in permanent villages and associated seasonal camps. Village population ranged from 50–400 with social structure based on lineages and clans. A single lineage was generally represented in smaller villages, while multiple lineages and a dominant clan presided in larger villages. Each clan/village owned a resource territory and was politically independent, yet maintained ties to others through economic, religious, and social networks in the immediate region. There were contact period villages in the vicinity of this segment, near what is now of Vista, San Marcos, and Escondido, but researchers have been unable to place rancheria names from the mission registers with these locations.

Like other Indigenous California groups, the primary food staple was the acorn (Bean and Shipek 1978), supplemented by other plant resources, fish, shellfish, waterfowl, and marine and terrestrial mammals. Villages were situated near reliable sources of water, needed for the daily leaching of milled acorn flour. Other plant foods included pine nuts and grass seeds, manzanita, sunflower, sage, chia, lemonade berry, wild rose, holly-leaf cherry, prickly pear, and lamb's quarter. Large and small prey included deer, antelope, rabbit, jackrabbit, wood rat, mice, and ground squirrel, as well as quail, ducks, and other birds. Fish, such as trout, were caught in rivers and creeks.

The first direct European contact with the Luiseño occurred in July 1769 with the Spanish expedition led by Gaspar de Portolá. During the next 6 years, eight missions and forts were founded north and south of Luiseño territory. In 1776, Mission San Juan Capistrano was founded less than 10 miles north, and the populations of five northern Luiseño villages had been halved within 15 years. In 1798, Mission San Luis Rey was established within Luiseño territory, and the proselytizing among the Payomkawichum began in earnest.

Several Luiseño leaders signed the statewide 1852 treaty, locally known as the Treaty of Temecula (an interior Luiseño village), but the U.S. Congress never ratified it. By 1875, however, reservations for the Luiseño were established in the Palomar Mountains and nearby valleys, including Pala, Pauma, Rincon, Pechanga, and La Jolla.

Methodology

Records Search

Dudek conducted a California Historical Resources Information Systems records search of the project area and a one-mile radius buffer at the South Coastal Information Center (SCIC) on January 31, 2022. The records search results indicate that 53 previous cultural resources studies have been conducted within 1-mile of the project area. Of the 53 previous studies, 5 studies intersect the project area. These studies consist primarily of an archaeological inventory report, two cultural resource reconnaissance reports, an EIR, and a records search and literature review. Overall, 100% of the project area has been previously studied.

The SCIC records search did not identify any cultural resources within the project area. The records search did identify eight cultural resources within the one-mile search radius buffer of the project area. Of the total eight resources identified in the one-mile buffer, six are prehistoric resources and two are historic resources. No historic addresses are located within the project area, however, two are located within the one-mile search radius. Refer to Appendix D for further details.

Archival Research

Dudek conducted an on-line review of historic aerial photographs of the project area and general vicinity, to help determine the possible development and land use of the project area in the past. Historic aerial photographs of the project area were available for 1938, 1947, 1953, 1964, 1967, 1980-1991, 1993-2000, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (Appendix D). The historical aerials from 1938 to 1967 revealed that project area was undeveloped. By 1978, some dirt trails can be observed within the area and to the north of the area, grading was observed, and two structures were developed. By 1980, the road for South Pacific Street is developed, the surrounding properties have been graded, and residential/commercial development is present. The aerials from 1981 to 1984 do not reveal any changes to the area. By 1985, some light surface disturbance is observed within a small section of the southern area. The 1986 aerial shows some slight disturbance to the area in the form of dirt trails. The aerials from 1987 to 1994 do not reveal any changes to the area. The 1993 aerial shows some disturbance to the eastern portion of the area, and by 1996, dirt trails or a dirt road become more prominent within the area. The aerials from 1997 to 2018 do not reveal any changes to the area. The entire portion of the project area has remained undeveloped. No historic structures are located within the project area. The review of the aerial photographs reveals that a majority of the project area has not been highly disturbed by earth-moving activities.

Historic topographic maps of the project area were reviewed (earliest map available is 1893). A creek is observed within the western section of the project area, however, on the 1979 topographic map, the creek is no longer observed within the project area. The historic topographic maps do not reveal any historic structures located within the project area.

Dudek reviewed a geotechnical report prepared for the project area (Appendix E to this EIR). The report details the results of six exploratory trenches to a maximum depth of 14 feet on September 1, 2021, however, the report only covered a small portion of the western section of the project area. Undocumented fill was encountered to a depth of approximately 2 feet. Alluvium was encountered in all trenches to depths ranging between 3.5 to 10 feet. Tertiary-age Santiago Formation was encountered below the undocumented fill and alluvium across the site, at depths between 3.5 and 10 feet below existing grade.

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2022), three soil types are mapped in the project area, including Las Flores loamy fine sand, 2% to 9% slopes, located in the central section of the project area, Las Flores-Urban land complex, 2% to 9% slopes, located along the western border of the project area, and Placentia sandy loam, thick surface, 0% to 2% slopes, located along the southern and eastern sections of the project area. The Las Flores soil series generally occurs on hillslopes, formed in residuum weathered from siliceous calcareous sandstone, and are typically at an elevation of 700 feet, The Placentia soil series generally occur in settings with alluvial fans, formed in alluvium derived from granite, and are typically at elevations

ranging from 50 to 2,500 feet. Reoccurring alluvial action and flooding serve to support the development and presence of cultural deposits in the area. Since there are alluvial soils present throughout the project area, there is moderate potential for subsurface cultural resources.

Native American Heritage Commission and Native American Outreach Letters

Dudek requested a Native American Heritage Commission (NAHC) search of the Sacred Lands File on January 31, 2022, for the project area. The Sacred Lands File consists of a database of known Native American resources. These resources may not be included in the SCIC database. The NAHC replied on March 24, 2022, with negative results (Appendix D). The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area.

Thirty-one outreach letters were mailed on March 24, 2022, to all Native American group representatives included on the NAHC contact list (Appendix D). These letters solicited, or attempted to elicit additional information relating to Native American resources that may be impacted by the project. Native American representatives were requested to define a general area where known resources intersect the project area. Three responses have been received to date. A response was received from the Rincon Band of Luiseño Indians on April 25, 2022, stating that the project is located within a culturally sensitive area and the potential exists that the project may impact tangible Tribal Cultural Resources (TCRs), Traditional Cultural Landscapes, and potential Traditional Cultural Properties. A response was received from the San Luis Rey Band of Mission Indians on April 26, 2022, stating that they are aware of cultural resources within close proximity to the project and recommends including a Luiseño Native American monitor during all ground disturbing activities. A response was received from the San Pasqual Band of Mission Indians on May 5, 2022, stating that the project is within their Traditional Use Area. The letters have been forwarded to the City. No other communications between Dudek and the tribes has occurred since then. The NAHC correspondence is included in Appendix D.

Assembly Bill 52 Consultation

In compliance with Assembly Bill (AB) 52, the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. The City mailed AB 52 notifications on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human

remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024.~~As of November 2, 2023, the City has not received a letter concluding consultation.~~

Intensive Pedestrian Survey

A Dudek archaeologist conducted an intensive level pedestrian survey of the project area on February 3, 2022. A Luiseño Native American monitor from Saving Sacred Sites participated in the pedestrian survey. All survey work was conducted employing standard archaeological procedures and techniques consistent with the Secretary of the Interior Standards. Five-meter interval survey transects were conducted in an east-west direction for the project area. Within the transects, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

The project area is relatively flat and undeveloped. Some disturbances were observed, such as a dirt road on the eastern portion of the project area, and a drainage feature from a sewer running north to south. Ground visibility was poor (0%–20%) in areas where the ground surface was obscured by vegetation. Approximately 75% of the area was obscured by grass, thistles, Hardy ice plants, and sage. Modern debris (e.g., refuse) is strewn throughout the area and a homeless encampment was observed in the bushes on the northwestern portion of the project area. The pedestrian survey did not identify any cultural or built environment resources within the project area.

3.16.2 Regulatory Setting

State

California Register of Historical Resources and the California Environmental Quality Act

Under CEQA, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). A resource may be listed as an historical resource in the CRHR if it meets any of the following National Register of Historic Places criteria (PRC Section 5024.1[c]) :

- Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Associated with the 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.
- Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the National Register of Historic Places, and properties listed or formally designated as eligible for listing on the National Register of Historic Places are automatically listed on the CRHR, as are the State Historical Landmarks numbered 770 or higher and California Points of Historical Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

Assembly Bill 52

California Assembly Bill 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address tribal concerns regarding project impacts and mitigation to TCRs. PRC Section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an

adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. listed or eligible for listing in the CRHR or a local register of historical resources, or
2. determined by a lead agency to be a TCR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act) (25 USC 32), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 150064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Health and Safety Code Section 7050.5 and PRC Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place

other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Section 7050.5[b]). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with PRC Section 5097.98(a), the NAHC will notify the most likely descendant. With the permission of the landowner, the most likely descendant may inspect the site of discovery. Within 48 hours of being granted access to the site, the most likely descendant may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

3.16.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to tribal cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to tribal cultural resources would occur if the project would:

- Threshold #1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    a. 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
    b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.16.4 Project Impact Analysis

Impacts to tribal cultural resources that may result from ground disturbing activities associated with the project are analyzed below.

Threshold #1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) 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

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Pursuant to AB 52, notification letters were mailed by the City on May 3, 2022, to California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the project. Three tribes requested consultation under AB 52, including the Rincon Band of Luiseño Indians on May 20, 2022, San Luis Rey Band of Mission Indians on June 6, 2022, and San Pasqual Band of Mission Indians on May 11, 2023. The Rincon Band of Luiseño Indians agreed with the mitigation measures proposed by Dudek in the archaeological resources report, which includes archaeological and tribal monitoring, and protocols for the discovery of cultural material and human remains. Additionally, the Rincon Band of Luiseño proposed that if export of soil is planned, consultation with the affiliated tribes will have to be initiated, and this was included in the mitigation measures. The Rincon Band of Luiseño concluded AB 52 consultation on December 20, 2022. The San Luis Rey Band agreed with the proposed measures for tribal cultural resources (MM-CUL-1 through MM-CUL-4) for the project's environmental document. The San Luis Rey Band of Mission Indians concluded AB 52 consultation on January 12, 2023. The San Pasqual Band of Mission Indians requested consultation on May 11, 2023. The City provided the San Pasqual Band of Diegueño Mission Indians with the project Cultural Reports on May 11, 2023. The San Pasqual Band of Diegueño Mission Indians requested inclusion of a Kumeyaay monitor during construction in a letter to the City on January 10, 2024. The City confirmed a Kumeyaay monitor would be included in the project's conditions of approval, and the San Pasqual Band of Diegueño Mission Indians concluded AB 52 consultation on February 14, 2024.~~The Cultural Report was provided to San Pasqual Band of Mission Indians, and as of November 2, 2023, the City has not received a letter concluding consultation. Therefore, consultation with San Pasqual band of Mission Indians has not yet been closed.~~

Under California's AB 52, TCRs are defined as archaeological resources that are eligible for or listed in the CRHR, or resources that the lead agency determines to be a TCR with a substantial burden of evidence. Notwithstanding information on TCRs received by the City to date, no TCRs have been identified that would be impacted by project implementation.

As described above, outreach letters were mailed on March 24, 2022, to all Native American group representatives included on the NAHC contact list (Appendix D). These letters attempted to solicit additional information relating to Native American resources that may be impacted by the project. Native American representatives were requested to define a general area where known resources intersect the project area. To date, no responses have been received.

City AB 52 consultation is carried out by the City as the lead agency and is currently ongoing. While considered unlikely based on the SCIC record's search, current disturbed state of the project site, and other information received by the City to date, there remains the potential for the project to encounter previously unknown and unanticipated TCRs during construction of the proposed project (Impact TCR-1).

Implementation of previously identified mitigation in Section 3.4, Cultural Resources, of this EIR (MM-CR-1 through MM-CR-4) would ensure potential impacts to tribal cultural resources as a result of ground-disturbing activities on the project site would remain **less than significant.**

3.16.5 Cumulative Impact Analysis

Each cumulative project subject to AB 52 would require tribal consultation on a case-by-case basis to identify any potential TCRs affected by each cumulative project. It is anticipated that each cumulative project would require mitigation similar to that required of the project to reduce potentially significant impacts to TCRs to a level below significance. With implementation of project-specific mitigation and compliance with applicable regulations related to Tribal Cultural Resources, cumulative impacts would be **less than significant**.

3.16.6 Mitigation Measures

Implementation of mitigation measures MM-CR-1 through MM-CR-4 outlined in Section 3.4, Cultural Resources of this EIR would be required to ensure any potentially significant impacts to unknown and unanticipated TCRs would remain less than significant.

3.16.7 Conclusion

For reasons described in Section 3.4.7, implementation of mitigation measures MM-CR-1 through MM-CR-4 outlined in Section 3.4 of this EIR would ensure any potentially significant impacts to TCRs (Impact TCR-1) remain **less than significant**.

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SOURCE: Bing Maps 2022

0 50 100 Meters
0 100 200 Feet

DUDEK

FIGURE 3.16-1

Area of Potential Effects (APE)

Hughes Circuits Project Environmental Impact Report

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3.17 UTILITIES AND SERVICE SYSTEMS

This section describes the existing utilities setting of the Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to water supply, water infrastructure, wastewater treatment capacity, wastewater infrastructure, and solid waste. Stormwater drainage and facilities are also analyzed in Section 3.9, Hydrology and Water Quality, of this environmental impact report (EIR). Energy consumption and conservation are addressed in Section 3.5, Energy, of this EIR.

The analysis herein relies on the following technical studies and supporting documentation:

- Hydrology Study, prepared by Excel Engineering, June 3, 2022 (included as Appendix F-1 to this EIR)
- Storm Water Quality Management Plan, prepared by Excel Engineering, November 13, 2023 (included as Appendix F-2 to this EIR)
- Water and Sewer Study, prepared by Vallecitos Water District, February 21, 2023 (included as Appendix J to this EIR)

Table 3.17-1 summarizes the utilities and service system analysis, by threshold.

Table 3.17-1
Utilities and Service Systems Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
#1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Less than Significant	Less than Significant	Less than Significant
#2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	Less than Significant	Less than Significant	Less than Significant
#3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than Significant	Less than Significant	Less than Significant
#4. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Less than Significant	Less than Significant	Less than Significant
#5. Comply with federal, state, or local management and reduction statutes and regulations related to solid waste.	Less than Significant	Less than Significant	Less than Significant

3.17.1 Existing Conditions

This section provides background information about the water, wastewater and solid waste service providers that currently serve the project area and that would serve the project.

Water Facilities

The project site is located within the Vallecitos Water District (VWD) for water services (VWD 2022). According to the City of San Marcos General Plan, the VWD receives its water from the Metropolitan Water District of Southern California (MWD), which imports water from the Colorado River and Northern California (City of San Marcos 2012a).

MWD was formed in 1928 to develop, store, and distribute supplemental water to southern California for domestic and municipal purposes. MWD consists of 26 member agencies and has a service area covering six counties, 5,200 square miles, and approximately 19 million people. MWD obtains water from local sources as well as the Colorado River, via the Colorado River Aqueduct, and the Sacramento-San Joaquin Delta, via the State Water Project. MWD's Urban Water Management Plan (UWMP) documents the availability of these supplies to meet future demands. With a projected annual water demand of 4,925,000 acre-feet per year for 2025, the MWD UWMP concludes that, with implementation of required conservation measures, MWD has supply capabilities sufficient to meet expected demands through 2045 under normal, single dry, and multiple dry water years (MWD 2021).

The MWD water demands through normal, single dry year, and multiple dry years are shown in Table 3.17-2.

Table 3.17-2
Metropolitan Water District of Southern California Water Demands

Average Year					
Dates	*2025*	*2030*	*2035*	*2040*	*2045*
Total Demands (AFY)	4,925,000	5,032,000	5,156,000	5,261,000	5,374,000
Single Dry-Year					
Dates	*2025*	*2030*	*2035*	*2040*	*2045*
Total Demands (AFY)	4,929,000	5,037,000	5,160,000	5,265,000	5,378,000
Multiple Dry-Years					
Dates	*2025*	*2030*	*2035*	*2040*	*2045*
Total Demands (AFY)	4,877,000	5,064,000	5,182,000	5,299,000	5,410,000

Source: MWD 2021.
AFY = acre-feet per year

San Diego County Water Authority (SDCWA) is the largest member agency of MWD. SDCWA's 2020 UWMP was approved on May 27, 2021. SDCWA's mission is to provide a safe and reliable supply of water to its 24 member agencies serving the San Diego region, which includes VWD. SDCWA is

San Diego County's predominant source of water, supplying from 75% to 95% of the region's water needs (SDCWA 2021). The population within the SDCWA's service area was approximately 3.3 million people in 2020 and is projected to increase to roughly 3.8 million people by 2045. The County of San Diego is expected to develop an additional 130,000 acres between 2020 and 2050, with the majority (125,000 acres) of development dedicated to residential land uses. These regional growth projections are based on the San Diego Association of Governments (SANDAG) Series 14 Regional Growth Forecast, developed for its 2019 Federal Regional Transportation Plan adopted by SANDAG's Board of Directors on October 25, 2019. In fiscal year 2020, total water demand in the SDCWA's service area was 463,128 acre-feet, of which 92% was for municipal and industrial use and 8% was for agricultural water use. By 2045, the SDCWA's total water demands are projected to reach 630,771 acre-feet. This projection accounts for planned future water conservation savings (SDCWA 2021).

There are existing 855 Zone and 920 Zone water facilities in the vicinity of the project site. The 920 Zone facilities consist of 24-inch-diameter and 30-inch-diameter transmission lines that do not provide direct service to properties in the area. Water service to existing development in the area is from connections to the 855 Zone which includes two 12-inch lines within Pacific Street, along the southern and western boundaries of the project site.

Wastewater

The project site is located within the VWD for sewer services (VWD 2022). The VWD currently has a wastewater system that has a total liquids treatment capacity of 12.45 million gallons per day (MGD), and has an estimated maximum daily flow of approximately 9.54 MGD (City of San Marcos 2012a). VWD's award-winning Meadowlark Water Reclamation Facility (MRF) is capable of recycling up to 74% of the wastewater generated in VWD's service area. Built in 1961, MRF is located within the southwestern portion of VWD's service area in Carlsbad. The MRF treats wastewater to meet the stringent standards of California Title 22 and Waste Discharge Permit R9-2007-0018 issued by the Regional Water Quality Control Board Region 9. The MRF has a capacity of 5 MGD, with a wet weather treatment capacity of 8 MGD. Recycled water from MRF travels through a 24-inch pipeline and is sold to the Carlsbad Water District and Olivenhain Municipal Water District. The Carlsbad Municipal Water District is contracted to annually purchase 3 MGD, while Olivenhain Municipal Water District is contracted to annually purchase up to 1.5 MGD (VWD 2018).

Surplus water from the MRF is stored in the 54-million-gallon Mahr Reservoir. Of the total 54 million gallons within the reservoir, 32 million gallons is allocated to Carlsbad Municipal Water District, and 16 million gallons is allocated to Olivenhain Municipal Water District, leaving 6 MGD for VWD to use in wastewater flow management. From here, water can be transported to the Encina Water Pollution Control Facility for disposal via a 3 MGD capacity failsafe pipeline. Under dry weather conditions, up to 1 MGD is conveyed for disposal. Under wet weather conditions, VWD would manage flow via the Mahr Reservoir to ensure flows to the Encina Water Pollution Control Facility would not exceed

2.5 MGD.[1] According to VWD's Master Plan, when the pipeline is at capacity, Carlsbad Municipal Water District has agreed to permit VWD to dispose of additional flow into their recycled water distribution system, subject to availability. In January 2010 through June 2014, VWD conveyed approximately 3.65 MGD of wastewater flow to the MRF for treatment and disposal (VWD 2018).

There are existing gravity sewer lines within South Pacific Street and one line that runs through the project site.

Stormwater

The undeveloped project site surface slope is approximately 2% and runs generally from the north to the south. The majority of the existing off-site surface slopes generally from the north to the south. When the water reaches South Pacific Street along the west border of the project, it flows into the existing dual 48-inch pipes then flow through vacant property before entering the project area. When off-site stormwater reaches the north edge of the project site, it flows along the slope until it reaches the project's point of connection at the south edge of the property.

Solid Waste

Solid waste disposal in San Marcos is provided by a private franchise hauler, EDCO Waste and Recycling (EDCO), a private waste collection and recycling company that handles all residential, commercial, and industrial collections within San Marcos (City of San Marcos 2012a). Waste collected by EDCO is hauled to the Escondido Resource Recovery Transfer Station. Waste is then transported to the Sycamore Sanitary Landfill in Santee, while recyclable materials are processed at the Escondido Resource Recovery Transfer Station (City of San Marcos 2012a). The project site would be serviced by EDCO.

The Escondido Resource Recovery Transfer Station has a permitted daily maximum capacity of 3,223 tons. Solid waste is consolidated here and trucked to a landfill for disposal. The Sycamore Sanitary Landfill has a daily permitted throughput of 5,000 tons per day of solid waste, a remaining capacity of approximately 113,972,637 cubic yards, and an anticipated closure date of 2042 (CalRecycle n.d.a.).

Electrical and Natural Gas

San Diego Gas & Electric (SDG&E) provides electric services to 3.7 million customers through 1.49 million electric meters located in a 4,100-square-mile service area that includes San Diego County and southern Orange County (SDG&E 2022). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the project. Electrical facilities throughout San Marcos include a

[1] Despite a total capacity of 3 million gallons per day (MGD) in the failsafe pipeline, permitted wastewater flows are determined by acceptable depth to-diameter ratios to ensure infrastructure longevity and functioning systems. This means that maximum flows to the Encina Water Pollution Control Facility will be less than 3 MGD.

combination of above-ground and underground electrical distribution lines and utilities structures. The California Public Utilities Commission regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from Pacific Gas & Electric, Southern California Gas Company (SoCalGas), SDG&E, Southwest Gas, and several smaller natural gas utilities. The California Public Utilities Commission also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage (CPUC 2022). SDG&E provides natural gas service to the counties of San Diego and Orange and would provide natural gas to the project. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2022). Proposed development on-site would require constructing private utility lines to connect to existing electrical lines and natural gas within South Pacific Street. SDG&E maintains a natural gas distribution system within South Pacific Street, which the project would connect to.

Telecommunications

Telecommunications services to the project site may be provided by various distributors. The fiber-optic network in San Marcos is facilitated by a 72-strand fiber-optic line that runs on various streets throughout San Marcos. All major arterials in San Marcos have implemented fiber optics. Existing AT&T and Cox telecommunication lines surrounding the project site.

3.17.2 Regulatory Setting

Existing federal, state, and local regulations related to water supply, wastewater, and solid waste that are applicable to the project are summarized below.

Federal

Clean Water Act

The federal Clean Water Act establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The City of San Marcos (City) is required to monitor water quality and conform to regulatory requirements of the Clean Water Act.

Resource Recovery and Conservation Act

The Resource Recovery and Conservation Act Subtitle D focuses on state and local governments as the primary planning, regulating, and implementing entities for the management of non-hazardous solid waste, such as household solid waste and nonhazardous industrial solid waste. Subtitle D provides regulations for the generation, transportation, and treatment, storage, or disposal of hazardous wastes.

State

Urban Water Management Plans

Urban water purveyors are required to prepare and update a UWMP every 5 years. The UWMPs address water supply, treatment, reclamation, and water conservation, and contain a water shortage contingency plan. Local UWMPs, such as those prepared by the Rincon and other water districts, are supplemental to the regional plans prepared by MWD. The Water Conservation Bill of 2009 (Senate Bill X7-7) requires each urban retail water supplier to develop an urban water use target and an interim urban water use target. Notably, Senate Bill X7-7 authorizes urban retail water suppliers to determine and report progress toward achieving these targets on an individual agency basis or pursuant to a regional alliance as provided in California Water Code Section 10608.28(a). As described above, water service to the site is provided by MWD. In accordance with this regulation, MWD prepared and their Board of Directors adopted its 2015 UWMP in 2016. MWD's UWMP includes estimated future water demands until 2040, using updated population projections and a conservative assumption that, in the absence of mandatory water conservation measures, per-capita consumption could rebound to its 2020 target value. Demands provided in MWD UWMP have been coordinated with SDWCA, MWD's wholesale supplier.

California Green Building Standards Code (CCR, Title 24, Part 11 – CALGreen)

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2019 standards became effective on January 1, 2020. The mandatory standards require the following measures that relate to utilities and service systems (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

Assembly Bill 939 and 341

In 1989, Assembly Bill 939, known as the Integrated Waste Management Act (California Public Resources Code, Section 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. Assembly Bill 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

Assembly Bill 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, Assembly Bill 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

Local

San Diego County Integrated Waste Management Plan

Pursuant to the Integrated Waste Management Act, the Countywide Integrated Waste Management Plan for San Diego County describes the goals, policies, and objectives of the county for coordinating efforts to divert, market, and dispose of solid waste during the planning period through the year 2017. Countywide policies for reducing waste and implementing the programs are identified in the individual jurisdiction Source Reduction and Recycling Elements and Household Hazardous Waste Elements and are intended to reduce costs, streamline administration of programs, and encourage a coordinated and planned approach to integrated waste management.

To avoid duplication of effort, all of the jurisdictions in the county participate in the San Diego County Integrated Waste Management Local Task Force. The Local Task Force coordinates mandated planning, oversees implementation of new or countywide integrated waste management programs,

and carries out an active legislative program. Regulatory reform, changes to state diversion requirements, and reduction of the costs of compliance are considered by the Local Task Force, as well as other solid waste issues of regional or countywide concerns.

City of San Marcos Municipal Code

Title 8, Health and Sanitation

San Marcos Municipal Code (SMMC) Title 8 contains regulations and provisions on sewers and sewage disposal plants, sewer connections, septic tanks, waste matter, garbage and refuse collection, and other matters concerning sanitation.

Title 14, Streets, Sidewalks, and Underground Utility Facilities

SMMC Title 14, Chapter 14.15, contains regulations concerning storm water management and discharge control. Chapter 14.24 contains regulations concerning underground utility facilities.

Title 19, Subdivisions

SMMC Title 19 regulates subdivision requirements, including the installation of utility facilities and connections and payment or fees for such installations.

Title 20, Chapter 20.330 Water Efficient Landscaping Ordinance (WELO)

The provisions of Title 20 of the SMMC are referred to as the Zoning Ordinance. SMMC Title 20, Section 20.330, details the City's Water Efficient Landscaping Ordinance. In accordance with State law, SMMC Chapter 20.330 establishes specific standards for landscape and irrigation design and installation to ensure beneficial, efficient and responsible use of water resources within the City.

City of San Marcos Climate Action Plan

The City adopted its Climate Action Plan (CAP) on December 8, 2020 (City of San Marcos 2020). The CAP acts as a roadmap to address challenges of climate change within the City. The CAP builds on the efforts and strategies identified in the City's 2013 CAP and establishes greenhouse gas (GHG) emissions reduction targets and identifies achievable, locally based actions to reduce GHG emissions from municipal and community activities. The CAP includes a baseline GHG emissions inventory for 2012, GHG emissions forecasts for 2020 and 2030, local GHG emissions reduction strategies and measures to help the City achieve the 2030 target, climate adaptation measures for the City, and implementation and monitoring mechanisms to ensure the City's measures and targets are achieved. The CAP established GHG emissions reduction goals of 4% below 2012 levels by 2020 and 42% below 2012 levels by 2030 (City of San Marcos 2020). The City has included energy reducing measures into its Climate Action Plan Consistency Review Checklist to include electric vehicle charging stations,

bicycle infrastructure, transportation demand management, reduced parking, electric or solar water heaters, photovoltaic systems, landscaping water use, and urban tree canopy.

City of San Marcos General Plan

The General Plan Conservation and Open Space Element includes one goal regarding water supply that is applicable to the project (City of San Marcos 2012b):

- **Goal COS-5:** Reduce water consumption and ensure reliable water supply through water efficiency, conservation, capture, and reuse.

The General Plan Conservation and Open Space Element also includes one goal and associated policy regarding solid waste that is applicable to the project (City of San Marcos 2012b):

- **Goal COS-10:** Establish and maintain an innovative, sustainable solid waste collection, recycling, and disposal delivery system for present and future generations.
    - **Policy COS-10.1:** Promote the curbside recycling program to divert residential refuse from the landfills.

The General Plan Land Use and Community Design Element identifies the following goals and policies regarding utilities and services systems that are applicable to the project (City of San Marcos 2012a):

- **Goal LU-8:** Ensure that existing and future development is adequately serviced by infrastructure and public services.
    - **Policy LU-8.1:** New development shall pay its fair share of required improvements to public facilities and services.
    - **Policy LU-8.2:** Promote development timing that is guided by the adequacy of existing and/or expandable infrastructure, services, and facilities.
- **Goal LU-13:** Water Service and Supply: Manage and conserve domestic water resources by reducing water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.
    - **Policy LU-13.1:** Work closely with local and regional water providers to ensure high quality water supplies are available for the community.
    - **Policy LU-13.2:** Actively promote water conservation programs aimed at reducing demand.
    - **Policy LU-13.3:** Encourage exploration and use of deep underground wells to reduce reliance on treatable water.

- **Goal LU-14:** Wastewater: Ensure a wastewater system for existing and future development.
    - **Policy LU-14.1:** Work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place.
    - **Policy LU-14.2:** Ensure development approval is directly tied to commitments for the construction or improvement of primary water, wastewater, and circulation systems.
- **Goal LU-16:** Solid Waste: Reduce the amount of waste material entering regional landfills with an efficient and innovative waste management program.
    - **Policy LU-16.1:** Work closely with local service providers to ensure adequate solid waste disposal, collection, and recycling services.
    - **Policy LU-16.2:** Increase recycling, composting, source reduction, and education efforts throughout the city to reduce the amount of solid waste requiring disposal at landfills.
- **Goal LU-17:** Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective and efficient service for San Marcos.
    - **Policy LU-17.2:** Require all new development and redevelopment to provide the technology to support multiple telecommunications facilities and providers such as multi-media products, wireless technologies, and satellite communications.
    - **Policy LU-17.3:** The City shall prohibit above ground utility equipment within any of the pedestrian pathway and street frontage areas. All above ground utilities shall be placed either within; "wet closets" within the buildings, underground vaults, or behind buildings where they are not visible. The developer shall be responsible to contact the applicable utility agencies in advance to coordinate utilities prior to approval of the final street improvement plans for both public and private street frontages and prior to submittal of building permits.
    - **Policy LU-17.4:** Require utility location to be shown on all site development plans at the time of development/ project application.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As detailed in Section 3.10., the project is consistent with the applicable goals and policies pertaining to utilities and service systems.

3.17.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities and service systems are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G

of the CEQA Guidelines, a significant impact related to utilities and service systems would occur if the project would:

- **Threshold #1:** Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- **Threshold #2:** Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- **Threshold #3:** Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- **Threshold #4:** Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- **Threshold #5:** Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.17.4 Project Impact Analysis

Threshold #1: Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Water

The project development would be served by VWD. There are existing 855 Zone and 920 Zone water facilities in the vicinity of the project site. The 920 Zone facilities consist of 24-inch and 30-inch transmission lines that do not provide direct service to properties in the area. Water service to existing development in the area is from connections to the 855 Zone which includes two 12-inch lines within Pacific Street, along the southern and western boundaries of the project site. Water service for potable residential use and fire service to the project site would be provided by VWD. The project would connect to existing water lines in South Pacific Street.

As described in Section 3.17.1, VWD receives its water from the SDCWA. SDCWA is San Diego County's predominant source of water, supplying from 75% to 95% of the region's water needs (SDCWA 2021). The population within the SDCWA's service area was approximately 3.3 million people in 2020 and is projected to increase to roughly 3.8 million people by 2045. The County of San Diego is expected to develop an additional 130,000 acres between 2020 and 2050, with the majority (125,000 acres) of development dedicated to residential land uses. These regional growth projections are based on the

SANDAG Series 14 Regional Growth Forecast, developed for its 2019 Federal Regional Transportation Plan adopted by SANDAG's Board of Directors on October 25, 2019. In fiscal year 2020, total water demand in the SDCWA's service area was 463,128 acre-feet, of which 92% was for municipal and industrial use and 8% was for agricultural water use. By 2045, the SDCWA's total water demands are projected to reach 630,771 acre-feet. This projection accounts for planned future water conservation savings (SDCWA 2021).

A Water and Sewer Study has been prepared for the project and is included as Appendix J to this EIR.

The modeling focused on the infrastructure in the immediate vicinity of the project and determined that there would be no deficiencies in the distribution system under normal or peak demand conditions. The Master Plan from 2018 indicated that the maximum demand for this project would be three times the average demand, and peak hour demand would be over six times the average. The project is located entirely within the VWD 855 pressure zone, which has water storage located in the 920 zone and 1028 Twin Oaks pressure zones. The project is expected to increase the average water demand by 3,393 gallons per day, which equates to a 500% increase in storage requirements or 16,965 gallons. However, the analysis showed that the current water storage capacity would be sufficient to meet the increased demand (Appendix J). As the project is situated in a pressure zone that does not rely on pumping, there would be no substantial impact on existing or planned pump stations as a result of this project. To provide service to the project, the applicant is required to pay all applicable Water and Wastewater Capacity Facility Fees, construct and obtain final acceptance of all on-site and off-site water and sewer facilities by the Board of Directors before service can be initiated, and install about 457 feet of 8-inch PVC Sewer Main along Pacific Street.

Considering the nature of the project, the project's estimated water demand is expected to be adequately provided by VWD. However, a formal water study will be required by VWD for the project, which will outline capacity fees to be paid by the project applicant and confirm adequate service connections.

Due to the location of the project site in an urbanized area that is currently served by existing facilities, and with confirmation of VWD approval of service, the project is not expected to require or result in the relocation or construction of new water facilities and impacts to water services would be **less than significant**.

Wastewater

As described above, the project would develop a light industrial building, which would increase the intensity of uses on the project site and result in increased wastewater generation. There are existing gravity sewer lines within South Pacific Street and one line that runs through the project site. Sewer service to the project site would consist of constructing private on-site sewer lines and connecting to the public system at point locations.

Wastewater generated by the project would be treated by the MRF. The MRF has a capacity of 5 MGD, with a wet weather treatment capacity of 8 MGD, and treats wastewater at 0.25 MGD. It is expected that the MRF would be able to adequately treat wastewater flows from the project, and therefore new wastewater treatment facilities would not be needed.

The City requires that VWD provide a letter of Sewer Availability for proposed developments within VWD. VWD will conduct a sewer study for the proposed development to determine whether the current infrastructure is sufficient to accommodate the development project, and/or to provide recommendations for capital improvements to provide service.

As discussed above, a Water and Sewer Study was prepared for the project and is included as Appendix J to this EIR.

The project site is situated entirely within VWD sewer shed 27C. The City of San Marcos has designated the land use for the project site as Light Industrial. The 2018 Master Plan based its long-term planning for wastewater generation on Open Space. The Hughes Circuits project is expected to increase the average wastewater generation by 3,393 gallons per day compared to the 2018 Master Plan land use. The modeling conducted not only focused on the sewer collection infrastructure within the immediate vicinity of the project but also on all downstream infrastructure up to Lift Station No. 1 on San Marcos Boulevard that would be impacted by the project flows. The modeling results revealed that there were no issues identified under the current approved density even under peak wet weather flows during ultimate build-out conditions (Appendix J).

Acceptance by VWD of all wastewater facilities required to be constructed to service the project would be required. With implementation of City and VWD requirements for sewer service, and considering the scope of existing and proposed infrastructure, the project is not anticipated to exceed current capacities or significantly impact existing wastewater treatment systems. Further, to the extent the project would require construction of new private sewer lines to connect to existing City facilities, the construction of such infrastructure has been considered throughout this EIR (e.g., within the project description, construction assumptions, etc.), and would not cause significant environmental effects. Therefore, impacts to wastewater services would be **less than significant**.

Storm Water Drainage

Development of the project would increase the impervious area on site and increase storm water runoff in comparison to existing conditions. However, as described in Section 3.9, Hydrology and Water Quality, of this EIR, storm drainage components recommended by the Hydrology Study (Appendix F-1) would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies rates that are similar to or less than pre-development conditions.

Water arrives on site via natural rainfall and off-site runoff. The majority of the existing off-site surface slopes generally from the north to the south. When the water reaches South Pacific Street along the west border of the project site, it flows into the existing dual 48-inch pipes then flow through vacant property before entering the project area. When water reaches the north edge of the project site, it flows along the slope until it reaches the point of connection at the southern edge of the property at South Pacific Street. Per the Municipal Separate Storm Sewer System (MS4) requirements, stormwater flows on-site would be conveyed to best management practice dispersion areas located at the southeast corner of the project site (please refer to Section 3.9 of this EIR and Appendix F-2). The project would extend the existing dual 66-inch culvert from the current terminus through the site to the development limits of the north side of the proposed parking lot. The proposed culvert routes stormwater to the point of connection at South Pacific Street. From here, the flows would follow the existing offsite flow path. Storm drainage components would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies rates that are similar to or less than pre-development conditions. The project would incorporate appropriate design of on- and off-site drainage facilities, and would prepare and implement a stormwater pollution prevention plan, stormwater quality management plan, and best management practices.

Implementation of all recommendations from the Hydrology Study (Appendix F-1) and development-specific drainage plans would ensure the project would not substantially exceed storm water drainage capacity or result in substantial polluted runoff. The construction of such improvements has been considered throughout this EIR (e.g., within the project description, construction assumptions), and has not been identified to cause significant environmental effects. Therefore, impacts would be **less than significant**. Please refer to Section 3.9, Hydrology and Water Quality, for additional discussion related to drainage.

Electric Power

As discussed in Section 3.5, Energy, of this EIR, implementation of the project would not result in inefficient, wasteful, or unnecessary electricity use. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by SDG&E. The amount of electricity used during construction of the project would be minimal because typical demand stems from the use of electronic equipment in addition to electrically powered hand tools. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be considered temporary and minimal.

Project operation would require electricity for multiple purposes, including cooling, lighting, appliances, and various equipment. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. The project is estimated to have a total electrical demand of approximately 261,832 kilowatt hours per year, with incorporation of PDF-GHG-1 outlined in

Section 3.7 of this EIR (project installation of 9,700 square feet of photovoltaic panels). For context, SDG&E customers consumed approximately 17,445 million kilowatt hours of electricity in 2020 (CEC 2022a). In summary, although electricity consumption would increase at the project site due to project implementation, the project would be required to comply with the Title 24 and the City's CAP Consistency Checklist by implementing energy-efficiency measures. Furthermore, the project will be subject to the Title 24 building code that is adopted at the time building permits are obtained and thus may be subject to a more stringent energy standard than what was assumed herein, and the additional electricity demand for the project would not be unusual or wasteful as compared to overall local and regional demand for energy resources.

Electricity and natural gas would be provided by SDG&E. Electrical facilities throughout the City include a combination of above-ground and below-ground electrical distribution lines and utilities structures.

Although electricity consumption would increase at the project site over current, vacant conditions, electrical power consumption would be consistent with that of an industrial development under the site's current land use/zoning designations. The project is not expected to exceed existing capacity of servicing infrastructure. Electrical power lines are proposed to be relocated. The location of the relocated electrical power line will be determined by the Dry Utility Consultant. Therefore, implementation of the project would not require or result in the relocation or construction of expanded electric power facilities and impacts would be **less than significant**.

Natural Gas

As discussed in Section 3.5, natural gas is not anticipated to be required during construction of the project. The operation would require natural gas for various purposes, including water heating and natural gas appliances. The project would consume approximately 1,118,553 kilo-British Thermal Units (kBtu) per year, including operation of the forklift. For context, SDG&E customers consumed approximately 505 million therms, which equates to about 50.5 billion kBtu of natural gas in 2020 (CEC 2022b). As previously discussed, the project would be subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to building permit application, the applicant would ensure that project plans would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process, and the additional natural gas demand for the project would not be unusual or wasteful as compared to other warehouses and the overall local and regional demand for energy resources.

As described above, natural gas would be provided by SDG&E. The project would require constructing private utility lines to connect to existing infrastructure. Due to existing SDG&E infrastructure in the project area, the project is expected to be adequately served by SDG&E. However, a will-serve letter from SDG&E would be required to ensure service needs are met. For these reasons, implementation of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, and impacts would be **less than significant**.

Telecommunications

Communications systems for telephones, computers, and cable television are serviced by utility providers such as AT&T, Cox, Spectrum (formerly Time Warner), and other independent cable companies. The City fiber-optic network is facilitated by a 72-strand fiber-optic line that runs on various streets throughout the City. All major arterials in the City have implemented fiber optics. No specific systems upgrades are proposed or anticipated for the project, but the location of the fiber-optic cable will be relocated. The location of the relocated fiber-optic cable along the right-of-way will be determined by the Dry Utility Consultant. Due to the existing infrastructure served in the surrounding project area, the project would not result in impacts associated with the construction or expansion of telecommunications, and impacts are determined to be **less than significant**.

Threshold #2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

As discussed in response to Threshold #1, above, the project would be served by VWD. As discussed above, MWD's UWMP shows water supplies will be available to meet current and future demands of the region. With a projected annual water demand of 4,925,000 acre-feet per year in 2025, the MWD UWMP demonstrates that, with implementation of required conservation measures, MWD has supply capabilities sufficient to meet expected demands through 2045 under normal, single dry, and multiple dry water years (MWD 2021). The water demand generated by the project is expected to present an insignificant increase in water demand relative to the annual water demand projected by the MWD's UWMP.

As described above, the VWD Sewer and Water Study prepared for the project determined that there would be no deficiencies in the distribution system under normal or peak demand conditions. The Master Plan from 2018 indicated that the maximum demand for this project would be three times the average demand, and peak hour demand would be over six times the average. The project is located entirely within the VWD 855 pressure zone, which has water storage located in the 920 zone and 1028 Twin Oaks pressure zones. The project is expected to increase the average water demand by 3,393 gallons per day, which equates to a 500% increase in storage requirements or 16,965 gallons. However, the analysis showed that the current water storage capacity would be sufficient to meet the increased demand (Appendix J).

Further, the project site would be developed in compliance with the California Green Building Code, which implements water efficiency standards for appliances and fixtures. Compliance with the California Green Building Code would further reduce project water usage in combination with VWD and MWD's ongoing water conservation practices. VWD requires a development-specific evaluation of water use to determine its ability to service any development and capacity fees to be paid. A "Water Availability" letter will be required for processing the project (VWD 2021). Compliance with these regulations and conservation measures will ensure sufficient water supplies are available to service the project. Impacts to water services would be **less than significant**.

Threshold #3: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As discussed under Threshold #1, above, wastewater generated by the project would be treated by the MRF. The MRF has a capacity of 5 MGD, with a wet weather treatment capacity of 8 MGD, and treats wastewater at 0.25 MGD. It is expected that the MRF would be able to adequately treat wastewater flows from the project.

As described above, the project would increase the projected average wastewater generation from the 2018 Master Plan land use by 3,393 gallons per day. The modeling results of the Sewer and Water Study prepared for the project showed that no deficiencies were identified under the currently approved density under peak wet weather flows during ultimate build-out conditions. However, the study shows a new 8-inch PVC Sewer Main would have to be installed down Pacific Street (HC-1 and HC-2). It is determined that outfall capacity is currently available to serve the project's proposed wastewater generation, and Wastewater Capital Facility Fees paid by the project would be used toward design and construction of a parallel land outfall to be sized to accommodate ultimate build-out wastewater flows (Appendix J).

As described above, sewer facilities to serve the project would require the construction of private on-site sewer lines connecting to the public system at one or more locations. VWD will conduct a sewer study for the project to determine whether the current infrastructure is sufficient to accommodate the development project, and/or to provide recommendations for capital improvements to provide service. The applicant of the project would be required to pay all applicable Wastewater Capital Facility fees in effect at the time service is committed in accordance with VWD rules and regulations. Acceptance by VWD of all wastewater facilities required to be constructed to service the project would also be required. With implementation of City and VWD requirements for sewer service, and considering the scope of existing and proposed infrastructure, the project is not anticipated to exceed current capacities or significantly impact existing wastewater treatment systems. Further, to the extent the project will require or result in the relocation or construction of sewer facilities, the construction of such infrastructure has been considered throughout this EIR (e.g., within the project description, construction assumptions), and would not cause significant environmental effects. Therefore, impacts to wastewater services would be **less than significant**.

Threshold #4: Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Construction of the project would result in the generation of solid waste such as scrap lumber, concrete, residual wastes, packing materials, and plastics. Operation of the project would represent an increase in intensity of uses and generation of solid waste on the project site compared to existing conditions. Solid waste generated by the project would be serviced by EDCO, and solid waste would

then be transferred to Sycamore Landfill. According to CalRecycle, the facility has a daily permitted capacity of 5,000 tons per day for solid waste. As of December 2016, the remaining capacity of Sycamore Sanitary Landfill is 147,908,000 cubic yards, or approximately 40 million tons, with an anticipated closure date of 2042. Further, four other landfills in the County accept municipal solid waste, including Borrego Landfill, Miramar Landfill, Otay Landfill, and Romona Landfill.

The anticipated operational solid waste generation from the project was estimated using CalRecycle's Estimated Solid Waste Generation Rates (CalRecycle 2019). It is estimated that the project (60 employees) would generate approximately 536 pounds of solid waste per day. This does not consider any waste diversion through recycling. According to CalRecycle, the City of San Marcos has a disposal rate target of 8.9 pounds per person per day. If the City meets this target, the City is considered in compliance with the 50% diversion requirement of Assembly Bill 939. The most recent data from CalRecycle identifies the annual per capital disposal rate is 6.4 pounds per person per day (CalRecycle 2021). Thus, the City is exceeding their targets for diversion.

The project would be required to comply with applicable state and local regulations related to solid waste, waste diversion and recycling at the time of development. Implementation of the project is not expected to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and impacts related to solid waste is determined to be **less than significant**.

Threshold #5: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

As described in response to Threshold #4 above, the project would be required to comply with all federal, state, and local statues and regulations related to solid waste, diversion of waste, and recycling. All solid waste facilities, including landfills, require solid waste facility permits to operate. In San Diego County, Public Resources Code (Sections 44001-44018) and California Code of Regulations Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.) authorizes the County Department of Environmental Health, Local Enforcement Agency to issue solid waste facility permits. Sycamore Sanitary Landfill is a permitted facility and EDCO is a licensed hauler. For these reasons, and the reasons stated above, impacts related to solid waste as a result of project implementation would be **less than significant**.

3.17.5 Cumulative Impact Analysis

Water

Some of the cumulative projects are within VWD service area for potable water service and would contribute to the cumulative demand for water supply. However, MWD anticipates the demand of future development through their master planning process. According to MWD's UWMP, no water shortages are anticipated within MWD service area in single of multiple dry years through 2045. Not

all cumulative projects fall into the VWD's service area; those that do not would be served by neighboring districts.

As described in Section 3.17.4, the project would result in less than significant impacts to water supply services. As discussed in Section 3.17.1, MWD has determined that with supplies provided by SDCWA, and compliance with the Water Conservation Bill of 2009, no water shortages would occur in a normal year through 2045 (MWD 2021). Other cumulative projects that are consistent with the land use assumptions made in MWD's UWMP would have already been accounted for in demand projections. Projects that are inconsistent with the land use assumptions made in MWD's UWMP would also be subject to CEQA and required to include water supply assessments to demonstrate adequate supply for development. Further, related projects would be required to show that adequate infrastructure exists to serve the related projects and mitigate any potential impacts to water infrastructure caused by the project. All projects would be required to pay applicable Capital Facility Fees to the SDCWA and VWD, required to go towards infrastructure improvements. Thus, cumulative impacts to water services would be **less than significant**.

Wastewater

Some of the cumulative projects are within VWD's service area for wastewater service and would contribute to the cumulative demand for wastewater treatment. VWD anticipates the demand for future development through their master planning process. Cumulative projects that are consistent with the land use assumptions made in VWD's Master Plan would have already had their demand accounted for. Lastly, not all cumulative projects fall into the VWD's service area; those that do not would be served by neighboring districts.

As discussed in Section 3.17.4, above, VWD has sufficient capacity to account for the project's estimated wastewater generation rate. Thus, with payment of all applicable Wastewater Capital Facility fees to VWD, impacts to wastewater treatment facilities would be less than significant. Cumulative projects that result in an increase in density or development over what was accounted for in VWD's Master Plan would further exacerbate wastewater deficiencies. However, these projects would also be subject to CEQA and required to mitigate any potential impacts to water supply services caused by the project. As such, cumulative impacts to wastewater facilities would be **less than significant**.

Stormwater

The project and cumulative projects would result in an increase of impervious surfaces in the area. More specifically, other large development projects nearby would result in conversion of large pervious areas to impervious areas. This would potentially result in increased surface runoff, alteration of the regional drainage pattern, and flooding. However, like the project, each individual project applicant would be required to hydrologically engineer the respective cumulative project sites to ensure that post-development surface runoff flows can be accommodated by the regional drainage system.

The project, in conjunction with cumulative projects that drain to the San Marcos Hydrologic Area, have the potential to increase the concentration of pollutants in surface runoff and downstream water quality. However, all cumulatively considered projects would be subject to the same federal water quality standards and state waste discharge requirements as the project. This includes preparation of project-specific stormwater pollution prevention plans per the National Pollutant Discharge Elimination System permit program and implementation of associated best management practices to prevent construction-related runoff from polluting receiving waters.

The project would incorporate bio-retention areas and best management practices into the project site design to limit the potential for water quality impacts to the greatest extent feasible. By incorporating these features into the project design, the project would not substantially contribute to a significant cumulative impact to water quality. Impacts would be **less than significant**.

Electrical and Natural Gas

Potential cumulative impacts on energy would result if the project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation. The cumulative projects within the areas serviced by the energy service providers would be applicable to this analysis; this includes existing aging structures that are energy inefficient. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact. Projects that would mostly include construction, such as transportation infrastructure, could also contribute to a cumulative impact; however, the impact of these projects would be limited because they would typically not involve substantial ongoing energy use.

As described previously, the project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary use of energy due to various design features, including installing electric vehicle charging stations, installing solar, implementing a Transportation Demand Management plan, reducing landscaping water use, and planting trees that would be required of the project. Like the project, cumulative projects would be subject to CALGreen, which provides energy efficiency standards for commercial and residential buildings. Over time, CALGreen would implement increasingly stringent energy efficiency standards that would require the project, and the cumulative projects, to minimize the wasteful and inefficient use of energy. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, further reducing the inefficient use of energy.

Cumulative projects are also required to comply with the state's energy efficiency standards and local regulations. Cumulative projects are therefore unlikely to result in significant effects related to requiring or resulting in the relocation or construction of new or expanded electric power facilities. As such, cumulative impacts related to electrical power would be **less than significant**.

Telecommunication Facilities

Cumulative development projects would increase the demand on telecommunication services. Communications systems for telephones, computers, and cable television are serviced by utility providers such as AT&T, Cox, Spectrum (formerly Time Warner), and other independent cable companies. The City's fiber-optic network is facilitated by a 72-strand fiber-optic line that runs on various streets throughout the City. All major arterials in the City have implemented fiber optics. No specific systems upgrades are proposed or anticipated for the project. Telecommunication demand and service is site and land use specific. All cumulative projects would be subject to CEQA and would require an analysis of impacts to utility services including telecommunication service. Due to the existing infrastructure served in the surrounding project area, the project would not result in cumulative impacts associated with the construction or expansion of telecommunications, As such, the project's contribution to cumulative impacts related to telecommunications would be **less than significant**.

Solid Waste

Cumulative development projects would generate solid waste to be disposed of at the Sycamore Sanitary Landfill. According to CalRecycle, the facility has a daily permitted capacity of 5,000 tons per day for solid waste. As of December 2016, the remaining capacity of Sycamore Sanitary Landfill is 147,908,000 cubic yards, or approximately 40 million tons, with an anticipated closure date of 2042 (CalRecycle n.d.a.). Further, five other landfills in the County accept municipal solid waste (County of San Diego 2005). This includes Borrego Landfill, with a remaining capacity of 111,504 cubic yards since March 2016 (CalRecycle n.d.c.); Otay Landfill, with a remaining capacity of 21.1 million cubic yards since June 2017 (CalRecycle n.d.d.); and Ramona Landfill, which is currently at capacity (CalRecycle n.d.e.). Therefore, it is determined there is adequate capacity throughout the County to serve future development projects, including those identified on the cumulative project list. Cumulative impacts related to solid waste would be **less than significant**.

3.17.6 Mitigation Measures

Impacts to utilities and service systems would be less than significant, and no mitigation is required.

3.17.7 Conclusion

Project implementation would result in an increase in the need for water, wastewater, stormwater, electrical power, telecommunications, natural gas, and solid waste services. However, as outlined in the project impact analysis above, Section 3.17.4, it is determined that there would be adequate existing facilities to service the project, and impacts to/from such utilities and service systems would be **less than significant.**

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3.18 WILDFIRE

This section describes the existing wildfire conditions of the Hughes Circuits Project (project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the project. This section is based on the Fire and Medical Response Analysis prepared by Dudek in February 2022, which is included as Appendix H to this environmental impact report (EIR).

Table 3.18-1 summarizes the project- and cumulative-level wildfire impacts, by threshold.

Table 3.18-1
Wildfire Summary of Impacts

Threshold of Significance	Project Impact	Project Cumulative Impact	Significance Determination
#1 – Substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than Significant	Less than Significant	Less than Significant
#2 – Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than Significant	Less than Significant	Less than Significant
#3 – Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less than Significant	Less than Significant	Less than Significant
#4 – Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than Significant	Less than Significant	Less than Significant

3.18.1 Existing Conditions

Wildfire is a continuous threat in Southern California and is particularly concerning in the wildland-urban interface, the geographic area where urban development either abuts or intermingles with wildland or vegetative fuels. During the summer season, dry vegetation, prolonged periods of drought, and Santa Ana wind conditions can combine to increase the risk of wildfires in the County.

The project site is located within the jurisdiction of the San Marcos Fire Department. The fire department provides structural fire protection and advanced life support-level emergency medical services within the City of San Marcos (City) limits; unincorporated territory adjacent to the city's

northern boundary; discontinuous, unincorporated areas between the City of San Marcos and the City of Escondido; and the community of Lake San Marcos. The fire department operates two Fire Stations (Stations 1 and 2) that would respond to an incident at the project site, although primary response would be from Station 2, with Station 1 responding as necessary.

3.18.1.1 Fire History

The project site, like all of San Diego County, is subject to seasonal weather conditions that can heighten the likelihood of fire ignition and spread. Fire history is an important component of wildfire analysis. Wildfire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources, amongst others. The California Department of Forestry and Fire Protection (CAL FIRE) maintain the Fire and Resource Assessment Program database, which was used to evaluate the project site's fire history to determine whether large fires have occurred in the project site, and thus the likelihood of future fires. Per the recorded fire history database, the site has not been subject to wildfire (CAL FIRE 2021). Recorded wildfire within 5 miles of the project site range from 39 acres (fire in 1982) to 40,247 acres (fire in 1943). The most notable, recent fire nearest to the project site was the Harmony fire in 1996, which consumed 9,359 acres.

3.18.1.2 Fire Hazard Mapping

CAL FIRE's Fire and Resource Assessment Program database also includes map data documenting areas of significant fire hazards in the state. These maps categorize geographic areas of the state into different Fire Hazard Severity Zones, ranging from moderate to very high. CAL FIRE uses Fire Hazard Severity Zones to classify anticipated fire-related hazards for the entire state, and includes classifications for State Responsibility Areas, Local Responsibility Areas, and Federal Responsibility Areas. Fire hazard severity classifications take into account vegetation, topography, weather, crown fire production, and ember production and movement. As shown in Figure 3.18-1, Fire Hazard Severity Zones, the project site is not within a Very High Fire Hazard Severity Zone (VHFHSZ), but there is a VHFHSZ located approximately 0.4 miles southwest of the project site (CAL FIRE 2009).

3.18.1.3 Vegetation Communities and Land Covers

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (leaf size, branching patterns), and overall fuel loading.

A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes affect plant community succession. Succession of plant communities, most notably the gradual conversion of shrublands to grasslands with high frequency fires and grasslands to shrublands with fire exclusion, is highly dependent on the fire regime. Further,

biomass and associated fuel loading will increase over time if disturbance or fuel reduction effects are not diligently implemented.

The vegetation types and land covers in the project site were identified during field assessments conducted for the project site. As detailed in Section 3.3, Biological Resources, the project site is characterized by Arundo-dominated riparian, disturbed wetland, emergent wetland, San Diego mesa claypan vernal pool, southern willow scrub, tamarisk scrub, valley needlegrass grassland, wildflower field, Diegan coastal sage scrub, Diegan coastal sage scrub-Baccharis dominated, non-native grassland (broadleaf dominated), eucalyptus woodland, and disturbed habitat. Figure 3.3-1 in Section 3.3 illustrates the distribution of vegetation communities and land covers in the study area.

3.18.1.4 Topography/Terrain

Topography influences fire risk by affecting fire spread rates. Typically, steep terrain results in faster fire spread up-slope and slower spread down-slope. Terrain that forms a funneling effect, such as chimneys, chutes, or saddles on the landscape can result in especially intense fire behavior, including faster spread and higher intensity. Conversely, flat terrain tends to have little effect on fire spread, resulting in fires that are driven by vegetation and wind. The project site is relatively flat and primarily consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities.

3.18.1.5 Climate, Weather, and Wind

In the City, the summers are short, warm, arid, and clear and the winters are long, cool, and partly cloudy. During summer months (early July through late September), the average daily high temperature is above 77°F, and during the cooler, winter months (late November through early April), the average daily high temperature is below 67°F. The temperature varies throughout the year but is rarely below 39°F or above 88°F. Like much of Southern California, the City experience seasonal variation in monthly rainfall throughout the year, with the wetter months lasting from October through April.

The project site, like much of Southern California, is influenced by prevailing wind patterns. Prevailing winds are winds that blow from a single direction over a specific area of the Earth. The predominant average hourly wind speed and direction in the City varies throughout the year. The wind is most often from the west for 10 months, and the wind is most often from the northeast from early December to late January. The windier part of the year lasts for approximately 7 months (November to June), with average wind speeds of more than 7.3 miles per hour (WeatherSpark 2022).

3.18.2 Regulatory Setting

Federal

National Fire Protection Association Codes, Standards, Practices, and Guides

National Fire Protection Association codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together professionals representing varied viewpoints and interests to achieve consensus on fire and other safety issues. National Fire Protection Association standards are recommended guidelines and nationally accepted good practices in fire protection but are not law or "codes" unless adopted or referenced as such by the California Fire Code (CFC) or local fire agency.

State

California Fire Code

The CFC is Chapter 9 of Title 24 of the California Code of Regulations. It was created by the California Building Standards Commission and is based on the International Fire Code created by the International Code Council. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazards classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years. Chapter 17.46 (California Fire Code) of the City's Municipal Code provides the City's adopted amendments to the 2019 CFC.

California Department of Forestry and Fire Protection

CAL FIRE is tasked with reducing wildfire-related impacts and enhancing California's resources. CAL FIRE responds to all types of emergencies including wildland fires and residential/commercial structure fires. In addition, CAL FIRE is responsible for the protection of approximately 31 million acres of private land within the state and, at the local level, is responsible for inspecting defensible space around private residences. CAL FIRE is responsible for enforcing State of California fire safety codes included in the California Code of Regulations and the California Public Resources Code.

California Strategic Fire Plan

In 2010, the State Board of Forestry and Fire Protection issued the California Strategic Fire Plan, a statewide fire plan developed in concert between the State Board of Forestry and Fire Protection and CAL FIRE. Goals included improved availability and use of information on hazard and risk assessment, land use planning, development of shared vision in plans such as Community Wildlife Protection Plans, establishment of fire resistance in assets at risk, shared vision among fire protection jurisdictions and agencies, levels of suppression, and post-fire recovery.

In support of this plan, several policies are noted, including creation of defensible space, improving home fire resistance, fuel hazard reduction that creates resilient landscapes and protects wildland and natural resources, adequate and appropriate fire suppression, and commitment by individuals and communities to wildfire prevention and protection through local planning.

The California Strategic Fire Plan's several objectives are as follows: the state will produce tools such as updates to the CAL FIRE VHFHSZ maps, fire history, and data on values and assets at risk; assist government bodies in the development of a comprehensive set of wildland and wildland/urban interface protection policies; identify minimum key components necessary to achieve a fire safe community; coordinate CAL FIRE Unit Fire Plans with Community Wildlife Protection Plans; improve regulatory effectiveness, compliance monitoring, and reporting pursuant to California Public Resources Code 4290 and 4291; and participate in public education efforts concerning regulation, prevention measures, and preplanning.

Local

California Disaster and Civil Defense Master Mutual Aid Agreement

As provided for in the California Emergency Services Act, this agreement was developed in 1950 and adopted by all 58 California counties. This statewide mutual aid system is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. San Diego County is located in Mutual Aid Region 6 of the state system, which also includes Imperial, Riverside, San Bernardino, Inyo, and Mono counties.

San Diego County Emergency Plan

The San Diego County Emergency Plan is a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents and nuclear defense operations. The Plan includes operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization and describes the overall responsibilities for protecting life and property and assuring the overall well-being

of the population. The plan also identifies the source of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies and the private sector.

City of San Marcos General Plan

The Conservation and Open Space Element of the City's General Plan contains several policies pertaining to wildfire hazards (City of San Marcos 2012). The following goals and policies apply to the project:

- **Goal S-3:** Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazard.
    - **Policy S-3.1:** Require development to be located, designed, and construction to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers.
    - **Policy S-3.2:** Provide sufficient level of fire protection services to reduce risk from urban and wildland fire. Advocate and support regional coordination among fire protection and emergency service providers.
    - **Policy S-3.3:** Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.
    - **Policy S-3.5:** Support programs and plans, such as Strategic Fire Plans, consistent with state law that require fuel management/modification within established defensible space boundaries and when strategic fuel modification is necessary outside of defensible space, balance fuel management needs to protect structures with the preservation of native vegetation and sensitive habitats.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. As shown in Section 3.10.4, the project is consistent with the applicable goals and policies related to wildfire.

3.18.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to wildfire are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to wildfire would occur if the project would:

- **Threshold #1:** Substantially impair an adopted emergency response plan or emergency evacuation plan.

- **Threshold #2:** Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- **Threshold #3:** Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- **Threshold #4:** Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

3.18.4 Project Impact Analysis

Threshold #1: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site is not located within or adjacent to a State Responsibility Area or Local Responsibility Area VHFHSZ (CAL FIRE 2009). The project site is located within an urbanized and developed area of the City. Although the project site is on undeveloped land, this wildland is not in an area subject to high fire risk. The nearest VHRHSZ is a Local Responsibility Area located approximately 0.4 miles southwest of the project site (CAL FIRE 2009). As discussed in Section 3.8, Hazards and Hazardous Materials, the project would be required to comply with all applicable state and local fire codes, including compliance with the California Fire Code and the San Marcos Fire Department, which require a design that affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, Sections 503.1 through 503.4 of the California Fire Code). As determined in the Fire Protection Technical Memorandum prepared for the project (Appendix H), the project would generate emergency calls, primarily medical, proportionally with its population and less than full-time on-site status. At build out, there may be as many as 0.014 calls per day generated by the on-site population. The addition of one call per 2.5 months to a station that is currently running approximately 17.8 calls per day is not considered a significant increase. Based on the information provided by the San Marcos Fire Department, the Project's additional call volume should not cause a significant stress on the response capabilities.

It has been determined that San Marcos Fire Department's existing Station 2 (with support from Station 1, as needed), would adequately serve the project site while maintaining San Marcos Fire Department's response goals (Appendix H). Please refer to Sections 3.8, Hazards and Hazardous Materials; 3.13, Public Services; and 3.15, Transportation, for additional information related to fire risk and fire service. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan and, therefore, impacts are determined to be **less than significant**.

Threshold #2: Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project site is located in a developed area of the City and is not located within or adjacent to a fire hazard severity zone. Although the project site includes native vegetation that could experience a relatively small-scale wildfire risk, the project land uses would not exacerbate that risk. The preliminary site plans and emergency access for the project have been reviewed by City Fire and would be in compliance with the Fire Code. It has been determined that the project would not exacerbate wildfire risks, exposing occupants to pollutants and, therefore, impacts would be **less than significant**.

Threshold #3: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

While the project would require the installation of water sources and other underground utilities to connect to the City's existing infrastructure (refer to Section 3.17, Utilities and Service Systems), these would not exacerbate fire risks, as the project is not located within or adjacent to a fire hazard severity zone and these improvements would be constructed within an existing right-of-way or within the project site boundary. The project does not propose any new overhead utility lines nor construction of roads to serve the project site. The project would not require the installation or maintenance of such infrastructure that would exacerbate fire risk, and therefore, impacts would be **less than significant**.

Threshold #4: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The project is not located in a VHFHSZ and risk of wildfire is considered low within the project site due the relative size of the habitat area and location. The Geotechnical Report (Appendix E) also does not note any significant landslide risks based on the soil types. The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be **less than significant**.

3.18.5 Cumulative Impact Analysis

Any of the cumulative projects proposed within the wildland urban interface would be required to meet minimum fire fuel modification and/or clearing requirements in addition to meeting whatever standards of the various fire codes in effect at the time of building permit issuance. For projects within the City, these requirements are implemented through preparation of and compliance with a Fire Protection Plan, which is reviewed and approved by the Fire Marshal.

Therefore, the project's and cumulative projects' compliance with applicable regulations related to wildfire would ensure impacts related to wildfire risk would be **less than significant**.

3.18.6 Mitigation Measures

Based upon the analysis presented in Sections 3.18.4 and 3.18.5, no significant impacts were identified, and no mitigation measures are required.

3.18.7 Conclusion

As described throughout Section 3.18.5, the project site is not designated as located within a high fire severity zone, and all development on site would be constructed in accordance with all applicable fire codes and regulations. As such, project-level and cumulative-level impacts related to wildfire would be **less than significant**.

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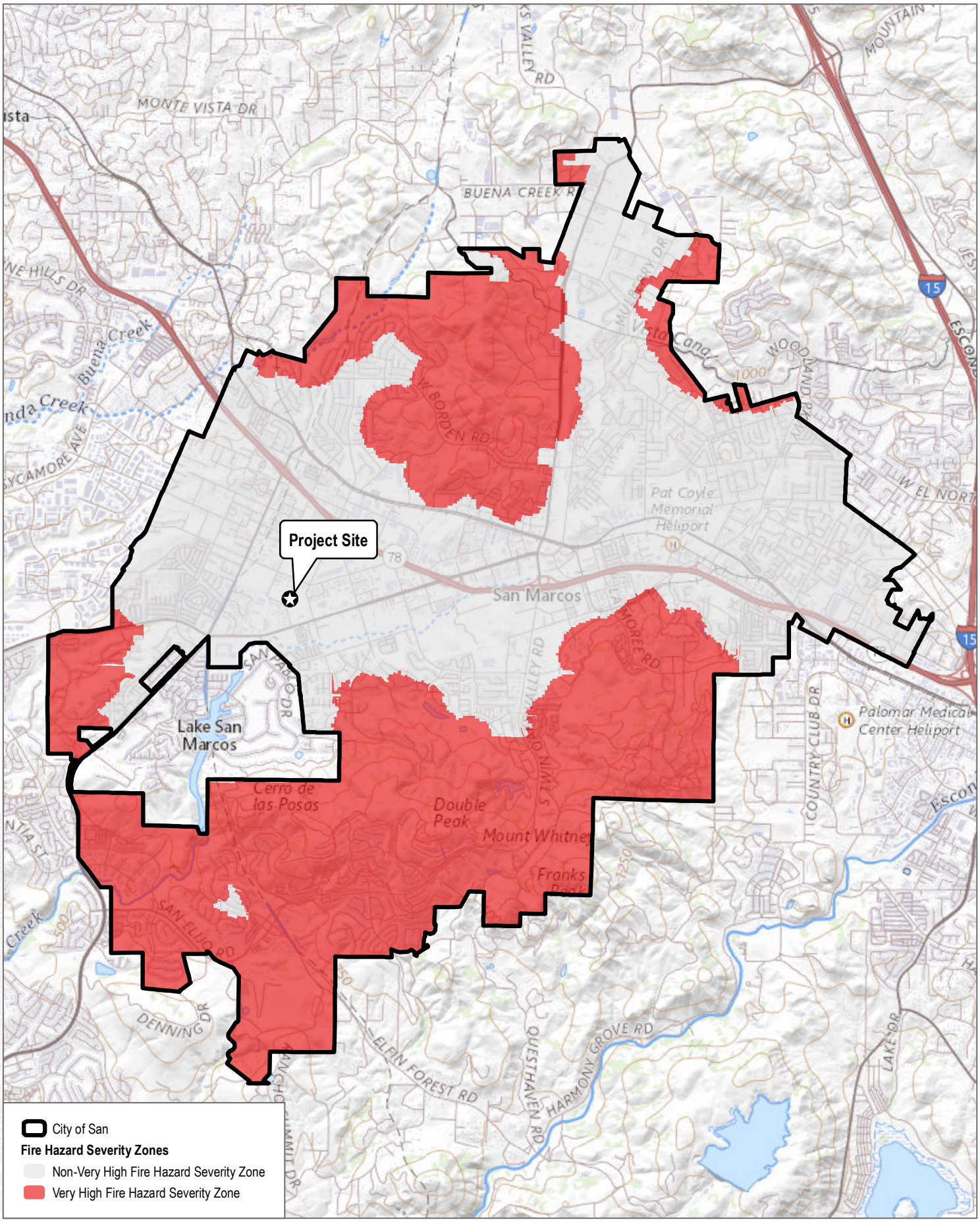

SOURCE: USGS National Map 2022; CAL FIRE 2022

DUDEK

0 0.5 1 Miles

FIGURE 3.18-1

Fire Hazard Severity Zones

Hughes Circuits Project Environmental Impact Report

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4 ALTERNATIVES

4.1 INTRODUCTION TO ALTERNATIVES

Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines states that the Environmental Impact Report (EIR) shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

The range of alternatives evaluated in an EIR is governed by the "rule of reason" that requires the EIR set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.6[a] of the CEQA Guidelines).

In developing the alternatives to be addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the Hughes Circuits Project (project) while reducing or avoiding the environmental impacts of the project identified in Chapter 3, Environmental Analysis, of the EIR.

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, the San Marcos City Council (see PRC Section 21081[a] [3]).

4.2 PROJECT OBJECTIVES

The following objectives of the project describe the underlying purpose of the project and provide a basis for identification of a range of reasonable alternatives evaluated in this EIR:

1. Expand the existing Hughes Circuits facilities to a nearby location for ease of continued operation and access.
2. Concentrate non-residential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, and industrial noise to the greatest extent feasible.
3. Develop a fiscally sound and employment-generating land use that maximizes the use of the light-industrial zoned area.

4. Restore, manage, and conserve sensitive on-site biological resources, to the extent feasible, while accommodating and maximizing development on site consistent with the General Plan land use and zoning designation.
5. Promote infill development and develop a site that is served by existing utilities, services, and street access.

4.3 ALTERNATIVES CONSIDERED BUT REJECTED

State CEQA Guidelines Section 15126.6(c) provides guidance in selecting a range of reasonable alternatives for the project. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. State CEQA Guidelines Section 15126.6(c) provides the following guidance in selecting a range of reasonable alternatives for the project. There are many factors that may be taken into account when addressing the feasibility of range of potential alternatives for the project, such as 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). The alternatives discussion shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination.

The EIR need not discuss every alternative to the project. A range of alternatives that are "reasonable" for analysis have been evaluated and are discussed below in Section 4.4, Project Alternatives Considered in this EIR. The following describes other alternatives considered by the City of San Marcos (City) but dismissed from further evaluation in this EIR, and a brief description of the reasons for their rejection.

4.3.1 Alternative Location

Pursuant to Section 15126.6(f)(2) of the CEQA Guidelines, the City considered the potential for alternative locations to the project. There are sites within the City that are similarly zoned for light-industrial use under the General Plan that could be developed or redeveloped with a light-industrial project with potentially less impacts to biological resources on site. However, the project applicant does not control another site within the City of comparable land area that is surrounded by existing infrastructure, near existing transit and specifically, near existing business operations. One of the factors for feasibility of an alternative is "whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." Because the City is highly urbanized and is largely built

out, obtaining another site of a similar size in a similar location is not considered feasible. As such, an alternative location was ultimately rejected from further analysis in the EIR.

4.4 PROJECT ALTERNATIVES CONSIDERED IN THIS EIR

4.4.1 Description of Alternatives

The following alternatives are under consideration for this project:

- No Project/No Development Alternative (Section 4.4.3)
- Reduced Development Intensity Alternative (Section 4.4.4)

Alternatives considered and removed from further consideration are summarized in Section 4.3.

4.4.2 Summary of Project Impacts

Project- and cumulative-level impacts associated with implementation of the project are evaluated in Sections 3.1 through 3.18 of this Draft EIR. As identified in Table 1-1, in Chapter 1 (Executive Summary), construction and/or operation of the project would have the potential to cause the following significant but mitigable environmental impacts:

- **Impact BIO-1:** Construction of the project would result in potential impacts to special-status species
- **Impact BIO-2:** Construction of the project would result in potential impacts to riparian habitat and sensitive natural communities
- **Impact BIO-3:** Construction of the project would result in potential impacts to jurisdictional wetlands and waterways
- **Impact CR-1:** Unknown archaeological resources may occur on the project site, and the project has the potential to disturb such unidentified resources during project grading.
- **Impact CR-2:** There is a potential for project construction activities to disturb previously unidentified human remains on the project site.
- **Impact GEO-1:** Paleontological resources may be adversely impacted during excavation.
- **Impact TRA-1**: The project VMT per employee would exceed 16.07 VMT per employee (15% below regional average) threshold.
- **Impact TCR-1**: There is potential for project construction to adversely affect previously unidentified tribal cultural resources (TCRs).

4.4.3 No Project/No Development Alternative

Under the No Project/No Development Alternative, the project would not be implemented, and the project site would remain undeveloped. However, this no project/no development alternative does not preclude future development on site, as industrial uses would still be allowed under the current Light Industrial land use designation for the site.

The project site is currently undeveloped and supports 16 vegetation communities. These vegetation communities and land covers identified are categorized into three community subgroups: sensitive uplands, sensitive wetlands/riparian habitat, and non-sensitive uplands. Sensitive uplands within the review area consist of Diegan coastal sage scrub, Diegan coastal sage scrub-Baccharis dominated, non-native grassland-artichoke-thistle dominated, non-native grassland-broadleaf dominated, valley needle grassland, and wildflower fields. Sensitive wetlands/riparian habitats within the review area include Arundo-dominated riparian habitat, disturbed wetlands, emergent wetlands, San Diego Mesa claypan vernal pools, southern willow scrub, and Tamarisk scrub. Non-sensitive uplands consist of disturbed habitat and Eucalyptus woodland.

Habitat on the project site would not be impacted under this alternative, but also may not be conserved.

4.4.3.1 Comparison of the Effects of the No Project/No Development Alternative to the Project

Aesthetics

Under the No Project/No Development Alternative, the site would remain in its current condition and the visual character of the site would not change. Existing vegetation would remain on site, and no grading or landform modification would occur under this alternative. Compared to the project, this alternative would reduce impacts. However, as discussed in Section 3.1.4, the project would not result in significant impacts to aesthetics and no mitigation would be required. Impacts to aesthetics under this alternative would be reduced compared to the project, but under either scenario would not be significant. Therefore, although changes to aesthetics under this alternative would be reduced in comparison to the project, this alternative would not eliminate any potential significant impacts to aesthetics.

Air Quality

Under the No Project/No Development Alternative, air pollutant emissions associated with construction, including emissions associated with grading, site preparation, site finishing and building finishing, would not occur. Implementation of this alternative would not introduce any uses that could generate air pollutant emissions. This alternative would not result in any air quality emissions. As discussed in Section 3.2.4, impacts to air quality from project construction and operation would be

less than significant and no mitigation is required. Nevertheless, compared to the project, the No Project/No Development Alternative would reduce air quality impacts.

Biological Resources

The No Project/No Development Alternative would not require any ground-disturbing activities. As such, this alternative would not result in the direct loss of approximately 2.6 acres of vegetation communities in the region and would not result in potential impacts to special-status species, riparian habitat and sensitive natural communities, nor jurisdictional wetlands and waterways. Because impacts to biological resources would be avoided under the No Project/No Development Alternative, Mitigation Measure (MM) BIO-1 through MM-BIO-12 proposed for the project would not be implemented or required for this alternative. Thus, compared to the project, this alternative would result in a reduced level of direct impact to biological resources.

Cultural Resources

The No Project/No Development Alternative would not require any ground-disturbing activities. Therefore, there would be no potential to impact unknown archaeological resources potentially located within the project site. Further, there would be no potential to disturb previously unidentified human remains that may be present on the project site. As such, MM-CR-1 through MM-CR-4 proposed for the project would not be implemented or required for this alternative. Although there may be a reduced level of direct impact to cultural resources, any previously undiscovered on-site resources could be subject to continued degradation due to lack of preservation of the undeveloped site. Nonetheless, compared to the project, this alternative would result in a reduced level of impact to cultural resources as no ground disturbance would occur.

Energy

Under the No Project Alternative, energy use associated with construction or operation of the proposed development, including from electricity use and natural gas use, would not occur. No construction would occur; therefore, no construction-related energy impacts associated with the construction equipment and worker and vendor vehicles would occur as they would with the project. This alternative would not introduce any people or uses that would generate energy use, and in comparison to the project, this alternative would reduce energy use. However, as described in Section 3.5, Energy, of this EIR, the project's impacts related to energy emissions would be less than significant. Therefore, compared to the project's less than significant impact to energy, the No Project Alternative would have no impacts.

Geology and Soils

Under the No Project/No Development Alternative, the project site would remain in its current state. Existing topography and on-site soils would not be disturbed by any development. Although the

project site would still be subject to potential seismic hazards such as seismic ground shaking, under this alternative, no structures would be present on site. Thus, the risk of loss, injury, or death involving seismic hazards would be reduced compared to development implementing the project. Because no development would occur under this alternative, no potential impacts to paleontological resources would occur during project construction, and mitigation would not be required under this alternative as it is for the project. Therefore, impacts to paleontological resources would be reduced under this alternative.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, greenhouse gas (GHG) emissions associated with electricity and natural gas use, water use, and solid waste handling associated with future industrial development would not occur. This alternative would not introduce any people or uses that would generate greenhouse gas emissions. Additionally, since this alternative would not generate project-related automobile trips, GHG emissions associated with vehicular trips would not occur. In comparison to the project, this alternative would result in a reduction of greenhouse gas emissions on site. However, as described in Section 3.7, Greenhouse Gas Emissions, of this EIR, the project's impacts related to GHG emissions would be less than significant. Therefore, although the No Project/No Development Alternative would reduce GHG emissions on site, this alternative would not eliminate any potential significant impacts to GHG emissions.

Hazards/Hazardous Materials

Under the No Project/No Development Alternative, no land uses would be introduced that could result in the use or generation of hazardous materials. In comparison to the project, this alternative would not have the potential for transport, accidental release or spill of hazardous materials during construction of the project, and would not expose people or structures to the potential of wildland fires, as the site would remain undeveloped. However, as described in Section 3.8, Hazards and Hazardous Materials, of this EIR, the project's impacts related to hazards and hazardous materials would be less than significant. Therefore, although the No Project/No Development Alternative would reduce the potential for hazards on site, this alternative would not eliminate any potential significant impacts related to hazards and hazardous materials.

Hydrology/Water Quality

Under the No Project/No Development Alternative, no development would occur and no impervious surfaces would be created. The existing on-site hydrologic conditions, drainage patterns, and drainage volumes would remain unaltered. Water quality would also remain unchanged. However, as described in Section 3.9, Hydrology and Water Quality, of this EIR, the project's impacts to hydrology and water quality would be less than significant. Therefore, although the No Project/No Development Alternative would reduce potential hydrology and water quality impacts on site, this alternative would not eliminate any potential significant impacts to hydrology and water quality.

Land Use and Planning

Under this alternative, the project site would remain undeveloped and none of the discretionary approvals identified for the project would be required. However, this alternative would not meet many of the overall goals of the City's General Plan, including accommodating growth in areas that can sustain a concentration of a variety of uses in areas suitable for multimodal transportation, or achieving balanced distribution of land uses to meet the needs of businesses. Furthermore, the project would be consistent with the existing land use and zoning designation for the project site. Nonetheless, because discretionary approvals would not be required under this alternative, impacts to land use and planning would be slightly reduced compared to the project.

Noise

The project site is currently vacant and does not generate any noise into the surrounding area. Under the No Project/No Development Alternative, the project site would remain undeveloped and would not create any new sources of construction or operational noise. Additionally, this alternative would not generate any groundborne vibration. However, as described in Section 3.11, Noise, of this EIR, the project's impacts related to noise would be less than significant. Therefore, although the No Project/No Development Alternative would reduce construction and operational noise on site, this alternative would not eliminate any potential significant impacts to noise.

Population and Housing

The project site is currently undeveloped. The No Project/No Development Alternative would not induce population growth in the area, as no development would occur. As described in Section 3.12, Population and Housing, of this EIR, the project would result in no impacts to displacement of existing housing or people, as none are present on site. Thus, although the project would result in less-than-significant impacts to substantial population growth in the area, because no employees would be added to the site under the No Project/No Development Alternative, impacts under this alternative would be reduced compared to the project.

Public Services

The No Project/No Development Alternative would not result in an increase in demand for public services, since no population-generating development would occur. Specifically, the No Project/No Development Alternative would not increase the demand for police and fire protection services, nor would this alternative increase the demand on parks, schools, and library services. As stated in Section 3.13, Public Services, of this EIR, the project would result in less-than-significant impacts to public services. Nonetheless, because this alternative would not result in new employee generating development on site, impacts on public services would be reduced compared to the project.

Recreation

Under the No Project/No Development Alternative, there would not be an increased demand for park and recreational facilities. As such, payment of the City's Public Facility Fees by the applicant would not be required. However, under this alternative, open space dedication proposed as part of the project would not be incorporated. Nonetheless, because this alternative would not result in increased demands to parks and recreation, impacts would be reduced compared to the project.

Transportation

The No Project/No Development Alternative would not result in the generation of vehicular trips, since there would be no development. Therefore, vehicle miles traveled (VMT) impacts identified to occur as a result of the project would not occur under this alternative.

Compared to the project, the No Project/No Development Alternative would eliminate all impacts identified for the project, and implementation of the proposed MM-TRA-1 and MM-TRA-2 would not be required. Compared to the project, the No Project/No Development Alternative would eliminate significant and unavoidable impacts related to transportation.

Tribal Cultural Resources

The No Project/No Development Alternative would not require any ground-disturbing or other construction/development activities. Therefore, there would be no potential to impact unknown tribal cultural resources potentially located within the project site. As such, MM-CR-1 through MM-CR-4 proposed for the project would not be implemented or required under this alternative. Compared to the project, this alternative would result in a reduced level of impact to tribal cultural resources.

Utilities and Service Systems

The light industrial building would not be constructed under the No Project/No Development Alternative. As such, the increase in demand for water service, wastewater service, and solid waste handling services would be eliminated. As discussed in Section 3.17, Utilities and Service Systems, of this EIR, impacts to utilities and services systems were determined to be less than significant under the project. Nonetheless, because no development would occur under this alternative, the demand for utilities would be eliminated. Therefore, impacts to utilities and service systems would be reduced under this alternative compared to the project.

Wildfire

The No Project Alternative would not introduce any development and would therefore not impair any emergency response plan or evacuation plan, exacerbate wildfire risk, nor expose occupants to hazards. As discussed in Section 3.18, Wildfire, of this EIR, impacts to wildfire were determined to be

less than significant under the project. Nonetheless, because no development would occur under this alternative, no impacts related to wildfire exacerbation would occur under this alternative.

Conclusion

Since the No Project/No Development Alternative would not directly provide for any development, overall impacts would be less than that of the project or eliminated entirely. There are some potential benefits of the project that would not be realized under this alternative, including providing additional job opportunities, maximizing development in areas with consistent land use and zoning designations, and restoring, managing, and conserving biological and potential (unknown) cultural/tribal cultural resources. As the No Project/No Development Alternative would not develop the site, this alternative would not fulfill project objectives 1 through 5.

4.4.4 Reduced Development Intensity Alternative

CEQA Section 15126.6, requires consideration of alternatives to the project that are capable of avoiding or substantially reducing any significant adverse impacts associated with the project. As discussed throughout Chapter 3, except for significant and unavoidable transportation impacts related to VMT, the project would result in less-than-significant impacts or no impact, with and without implementation of mitigation measures.

Per the City's Transportation Impact Analysis Guidelines (November 2020) Table 1: Sample Small Projects, projects that are consistent with the General Plan and generate fewer than 110 daily trips using San Diego Association of Governments' trip generation rates, would not require further VMT analysis (City of San Marcos 2020). Under the Reduced Development Intensity Alternative, a 21,800-square-foot warehouse building would be developed. The substantial reduction in light industrial size from 67,410 square feet under the project, to 21,800 square feet under this alternative would be required in order to fall under the Small Project criteria (i.e., less than 110 daily trips) and avoid VMT impacts.

Similar to the project, this alternative would develop a light-industrial use consistent with the General Plan land use and zoning designation for the site. Other improvements, such as circulation, landscaping and utility connections would occur as required. Off-site improvements beyond those required by mitigation measures would not occur under this alternative. The reduced development footprint area under this alternative would be made into usable open space area for employees. The employee count under this alternative would remain the same as the project, at approximately 60 employees.

4.4.4.1 Comparison of the Effects of the Reduced Development Intensity Alternative to the Project

Aesthetics

The Reduced Development Intensity Alternative would develop an industrial warehouse on the currently undeveloped site. As no site plan is available for this alternative, it is assumed that both development of the project and development of this alternative would result in similar outcomes as it relates to buildout of a currently vacant site. As discussed in Section 3.1, Aesthetics, of this EIR, impacts to aesthetics from project development would be less than significant and no mitigation is required. Compared to the project, the Reduced Development Intensity Alternative would result in similar, less than significant aesthetic impacts.

Air Quality

Under the Reduced Development Intensity Alternative, air pollutant emissions associated with project construction including emissions associated with grading, site preparation, site finishing and building finishing would occur, similar to the project, or slightly reduced.

However, this alternative would likely result in reduced air pollutant emissions compared to the project, due to the reduced building footprint. The greatest potential for toxic air contaminant emissions would be diesel particulate matter emissions from heavy-duty equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. As discussed in Section 3.2.4 of this EIR, impacts to air quality from project construction and operation would be less than significant and no mitigation is required. Compared to the project, the Reduced Development Intensity Alternative would result in similar, less than significant air quality impacts.

Biological Resources

The Reduced Development Intensity Alternative would result in a reduced ground disturbance area on the project site. Because reduced ground disturbance would occur under this alternative, there would be less potential to impact existing biological resources on site. However, the Reduced Development Intensity Alternative would still result in potential impacts to vegetation and habitat on site, and would require mitigation similar to MM-BIO-1 through MM-BIO-12, proposed for the project.

With implementation of mitigation measures similar to those proposed for the project, this alternative would result in similar less than significant impacts to biological resources compared to the project.

Cultural Resources

The Reduced Development Intensity Alternative would result in less ground-disturbance compared to the project. Therefore, the potential to impact unknown archaeological resources located within the

project site, as well as unidentified human remains, would occur within a smaller area compared to the project, resulting in potentially reduced impacts. However, as with the project, implementation of mitigation measures similar to MM-CR-1 through MM-CR-4 would be required to reduce potential impacts to unknown/unidentified cultural resources. With implementation of mitigation measures similar to those proposed within the project, this alternative is expected to result in a similar level of less-than-significant impacts to cultural resources compared to the project.

Energy

Under the Reduced Development Intensity Alternative, development would result in construction and operational energy use. Energy use during construction would primarily be associated with construction equipment, as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers and HVAC, similar to the project. Natural gas is not anticipated to be used during construction, similar to the project, and would be temporary and negligible if used. Petroleum would be used throughout construction of the alternative and would be similar to the project. Ultimately, like the project, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not be wasteful or inefficient.

The operation of this alternative would also require electricity for multiple purposes, similar to the project. The Reduced Development Intensity Alternative demand for energy use is expected to be similar to that required to serve the project, or slightly reduced. Similar to the project, this alternative would be required to comply with building requirements (including Title 24 standards) designed to ensure efficient energy use, reduce energy demand, and comply with state and local renewable energy and energy efficiency requirements. As such, demand for energy is determined to be comparable to the project under this alternative. Therefore similar, less-than-significant impacts to energy would occur under this alternative.

Geology and Soils

Under the Reduced Development Intensity Alternative, ground-disturbance areas would be reduced. However, development under this alternative would be subject to the same potential seismic hazards, such as seismic ground shaking. This alternative would also require abiding by geological recommendations, such as the ones identified in the geotechnical evaluation for the project. Similar to the project, paleontological resources have the potential to be impacted during excavation because the potential for paleontological resources to be located on the project site is considered high. Mitigation similar to MM-GEO-1 under the project is expected to be required under this alternative. Compared to the project, this alternative would result in similar less-than-significant impacts to geology and soils with the exception of impacts to paleontological resources, which would be less than significant with mitigation incorporated.

Greenhouse Gas Emissions

Construction of the Reduced Development Intensity Alternative would result in construction GHG emissions that are primarily associated with use of off-road construction equipment, on-road vehicles, vendor trucks, and worker vehicles, similar to the project. Construction GHG emissions under this alternative would be similar or may be slightly reduced as a result of the decreased building footprint, and potential decrease of required construction equipment and construction schedule.

Estimated annual operational GHG emissions from this alternative would be similar or slightly reduced compared to the project as the employee count would likely be reduced. Thus, this alternative would result in overall similar GHG emissions compared to the project, and impacts would remain less than significant.

Hazards/Hazardous Materials

Similar to the project, there is the potential for the Reduced Development Intensity Alternative to generate hazardous materials during construction; however, existing federal and state standards are in place for the handling, storage and transport of these materials. Because the Reduced Development Intensity Alternative would result in similar but reduced development of industrial uses on site, operation of this alternative would result in similar use of hazardous materials on site that would be utilized under the project. Therefore, compared to the project, this alternative would result in similar less-than-significant impacts related to hazards and hazardous materials.

Hydrology/Water Quality

As described above, the Reduced Development Intensity Alternative would result in a similar, slightly reduced, ground disturbance area on the project site. Due to the reduced building footprint, it is assumed that this alternative would introduce less impervious surfaces to the site compared to the project. Development of both the project and this alternative would alter the existing on-site hydrologic conditions, drainage patterns, and drainage volumes. It is expected that this alternative, like the project, would also incorporate all required and applicable best management practices to avoid any violations of water quality standards, or otherwise modify or adversely affect surface and groundwater quality. Therefore, as compared to the project, this alternative would result in similar less-than-significant impacts related to hydrology and water quality.

Land Use and Planning

Similar to the project, development of this alternative would be consistent with land uses identified in the City's General Plan and would also be consistent with adjacent land uses. As outlined in Section 3.10, Land Use and Planning, of this EIR, the project would result in less than significant impacts related to land use and planning. Therefore, because this alternative would similarly develop

the project site with a warehouse consistent with the light-industrial land use designation and zoning for the site, this alternative would also result in less than significant impacts.

Noise

The Reduced Development Intensity Alternative could potentially result in reduced noise levels as a result of the reduced building footprint under this alternative. As analyzed in Section 3.11 of this EIR, noise impacts associated with the project were determined to be less than significant. Construction noise of this alternative is expected to be similar to that of the project, although the construction schedule for this alternative would be slightly shorter. Operationally, this alternative would result in similar or slightly reduced noise generation to that of the project due to the layout. Development of this alternative would be expected to comply with the City's noise ordinance regarding generation of noise at the property line. Therefore, as compared to the project, this alternative may result in slightly reduced noise, but would still result in similar, less-than-significant impacts.

Population and Housing

Similar to the project, the Reduced Development Intensity Alternative would not introduce residential development on site, and would not result in direct growth inducement in the area. As analyzed in Section 3.12 of this EIR, population and housing impacts associated with the project were determined to be less than significant. Therefore, as compared to the project, this alternative would result in similar, less-than-significant impacts.

Public Services

Similar to the project, the Reduced Development Intensity Alternative would result in an increase in demand for public services due to the development of a currently vacant site. As analyzed in Section 3.13 of this EIR, public service impacts associated with the project were determined to be less than significant. Therefore, as compared to the project, this alternative would result in similar, less-than-significant impacts.

Recreation

Similar to the project, the Reduced Development Intensity Alternative would not result in an increase in demand for parks and recreation services over existing conditions, as no residents or substantial population generation would be associated with development of Industrial uses on site. Under this alternative, the reduced building footprint area would be developed into usable open space on site. Therefore, this alternative would provide more usable open space than that of the project, although such open space for industrial development is not required. As analyzed in Section 3.14, Recreation, of this EIR, recreation impacts associated with the project were determined to be less than significant. Therefore, as compared to the project, this alternative would result in similar, less-than-significant impacts.

Transportation

The Reduced Development Intensity Alternative would be served by similar vehicle traffic during construction compared to the project. Construction traffic impacts under this alternative are expected to be less than significant, as with the project. During operation, project access points for this alternative would be reconfigured to adequately serve the reduced building footprint. It is anticipated that this alternative would be required to provide adequate emergency access, similar to the project.

As outlined in Section 3.15, Transportation, of this EIR, the project would result in significant and unavoidable impacts related to VMT.

Per the City's Transportation Impact Analysis Guidelines (November 2020) Table 1: Sample Small Projects, projects that are consistent with the General Plan and generate fewer than 110 daily trips using San Diego Association of Governments' trip generation rates, would not require further VMT analysis (City of San Marcos 2020). Under the Reduced Development Intensity Alternative, a 21,800-square-foot warehouse building would be developed. The substantial reduction in warehouse size from 67,410 square feet under the project, to 21,800 square feet under this alternative would be required in order to fall under the Small Project criteria (i.e., less than 110 daily trips) and avoid VMT impacts. Therefore, the development of a 21,800-square-foot warehouse under this alternative would reduce transportation impacts to less than significant in comparison to the project's significant and unavoidable impacts.

Tribal Cultural Resources

This alternative would result in development within a slightly reduced footprint on the project site. As such, this alternative would have slightly less potential to affect unknown tribal cultural resources compared to the project. It is expected that this alternative would require implementation of mitigation measures similar to MM-CR-1 through MM-CR-4 proposed for the project. Thus, with the implementation of mitigation, impacts to tribal cultural resources would be similar to the project and would be less than significant.

Utilities and Service Systems

The Reduced Development Intensity Alternative would be expected to similarly increase demand for water service, wastewater service, and solid waste over existing vacant conditions due to development of industrial uses. Demand for water service, wastewater service, and solid waste to service 21,800 square feet of industrial warehouse uses proposed under this alternative would be similar or slightly reduced to that required to serve the project. As such, demand for utilities and service systems is determined to be comparable to the project's less than significant impact.

Wildfire

As discussed in Section 3.18 of this EIR, impacts to wildfire were determined to be less-than-significant under the project. The site is located in an urbanized, infill area and is not located in any fire hazard severity zones or near any local responsibility areas, state responsibility areas, or near lands classified as very high fire hazards severity zones. Like the project, the Reduced Development Intensity Alternative's development of 21,800 square feet of industrial warehouse uses would be required to comply with all applicable state and local fire codes. This alternative would therefore not exacerbate wildfire risk nor expose occupants to hazards or other significant risks of loss, injury, or death concerning wildland fires. Impacts related to wildfire under this alternative are expected to be similar to the project.

Conclusion

The Reduced Development Intensity Alternative would reduce the building footprint area on site. Similar to the project, this alternative would develop a light-industrial use consistent with the General Plan land use and zoning designation for the site. Other improvements, such as circulation, landscaping and utility connections would occur as required. Off-site improvements beyond those required by mitigation measures would not occur under this alternative. The reduced development footprint area under this alternative would be made into usable open space area for employees. It is expected that the employee count under this alternative would be reduced as a result of the substantially reduced warehouse size.

The Reduced Development Intensity Alternative would potentially provide a slightly reduced level of impact in some environmental analysis areas including air quality, biological resources, cultural resources, geology and soils, greenhouse gases and tribal cultural resources. As described above, mitigation measures would still be required to mitigate impacts to biological resources, cultural resources, and tribal cultural resources. This alternative would meet most of the project objectives, with the exception of objective 3, as this alternative would not maximize the allowable development footprint on site. Overall, it is determined that impacts associated with the Reduced Development Intensity Alternative would be less than those associated with development of the project.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 4-1 provides a qualitative comparison of the impacts for each Alternative compared to the project. As shown in Table 4-1, the No Project/No Development Alternative would eliminate all of the significant impacts identified for the project. However, the No Project/No Development Alternative would not meet any of the project objectives. Additionally, there is no certainty that the project site would remain undeveloped in perpetuity.

CEQA Guidelines Section 15126.6(e)(2) states that if the No Project alternative is identified as the environmentally superior alternative, then an environmentally superior alternative should be identified among the other alternatives.

Among the other alternatives, not including the project, the Reduced Development Intensity Alternative would be considered the environmentally superior alternative because it would potentially provide a reduced level of impact in some environmental analysis areas including air quality, greenhouse gas, and geology and soils. However, such impacts under this alternative would still remain as less than significant, similar to the project. The Reduced Development Intensity Alternative would also result in decreased footprint specific impacts, such as those related to cultural resources, biological resources, and tribal cultural resources. However, mitigation measures would still be required to mitigate impacts to these environmental resources. Under this alternative, significant and unavoidable transportation impacts under the project would be reduced to less than significant, as this alternative would screen out of VMT due to the 21,800-square-foot building size falling under the City's Transportation Impact Analysis Guidelines Small Project criteria (i.e., less than 110 daily trips).

This alternative would meet all of the project objectives, with the exception of objective 3, as this alternative would not maximize the allowable development footprint on site.

Table 4-1
Comparison of Impacts of Project and Alternatives

Environmental Topic	Project	No Project/No Development Alternative	Reduced Development Intensity Alternative
Aesthetics	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Air Quality	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Biological Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Geology and Soils	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Greenhouse Gas Emissions	LTS	No Impact (Reduced)	LTS (Same/Reduced)
Hazards and Hazardous Materials	LTS	No Impact (Reduced)	LTS (Same)
Hydrology and Water Quality	LTS	No Impact (Reduced)	LTS (Same)
Land Use	LTS	No Impact (Reduced)	LTS (Same)
Noise	LTS	No Impact (Reduced)	LTS (Same)
Population and Housing	LTS	No Impact (Reduced)	LTS (Same)
Public Services	LTS	No Impact (Reduced)	LTS (Same)
Recreation	LTS	No Impact (Reduced)	LTS (Same)
Transportation	SU	No Impact (Reduced)	LTSM (Reduced)
Tribal Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same/Reduced)
Utilities and Service Systems	LTS	No Impact (Reduced)	LTS (same)
Wildfire	LTS	No Impact (Reduced)	LTS (same)

Notes: Impact Status: LTS = Less-Than-Significant Impact; LTSM = Less Than Significant with Mitigation; SU = Significant and Unavoidable.

5 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

As required by Section 15128 of the California Environmental Quality Act (CEQA) Guidelines, the following is a discussion of the environmental effects that were considered as part of this environmental impact report (EIR) but were determined to have "No Impact" and, therefore, are not discussed in detail in Chapter 3, Environmental Analysis, of this EIR. Agriculture/Forestry Resources and Mineral Resources were the only environmental issue areas eliminated from Chapter 3 and are briefly discussed below.

As discussed in Chapter 2, Project Description, Location, and Environmental Setting, of this EIR, the project proposes development of a 67,410-square-foot light industrial building on approximately 2.61 acres within the 10.46-acre project site.

5.1 AGRICULTURE AND FORESTRY RESOURCES

The project site is designated as Urban and Built-Up Land by the California Department of Conservation – Farmland Mapping and Monitoring Program (CDOC 2016). As a result, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses.

Furthermore, the project site is not zoned for agricultural use or designated as land under the Williamson Act, nor is the project site zoned for forest land or timberland production (City of San Marcos 2012). Therefore, implementation of the project would not result in the loss or conversion of forest land. No impact would occur regarding conflicts with existing zoning for agricultural use or forest land.

Designated farmland does not exist within the vicinity of the project site. The project would not result in substantial changes that could result in the conversion of farmland to non-agricultural use. The project site is designated "Light Industrial" by the City of San Marcos (City) and is surrounded by developed land to the north, south and west. Given the extent of development surrounding the project site, the project would not result in the conversion of any existing farmland, and no impact would occur.

5.2 MINERAL RESOURCES

According to the City's General Plan – Conservation and Open Space, the City has land classified in all four Mineral Resource Zones (MRZ) (City of San Marcos 2012). The different MRZs are defined as follows:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

- **MRZ-3:** Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment to any other MRZ zone.

California does not require that local governments protect land designated as MRZ-1, MRZ-3, or MRZ-4. However, the City is responsible for recognizing lands designated as MRZ-2 and protecting these areas from premature development incompatible with mining. City lands designated as MRZ-2 include small portions between Double Peak, little Mt. Whitney (San Marcos), and Franks Peak, and small portions in the northern sphere of influence within Twin Oaks Valley Neighborhood (City of San Marcos 2012). These locations do not overlap with the project site; therefore, no loss of known mineral resources would occur.

Furthermore, the project site is not designated as a locally important mineral resource recovery site on any local general plan, specific plan, or other land use plan (City of San Marcos 2012). Thus, due to the location and nature of the project, there would be no impact to mineral resources.

6 OTHER CEQA CONSIDERATIONS

6.1 SIGNIFICANT UNAVOIDABLE IMPACTS

California Environmental Quality Act (CEQA) Guidelines, Section 15126.2(b), requires that an environmental impact report (EIR) describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less-than-significant level. Chapter 3, Environmental Analysis, of this EIR describes the potential environmental impacts of the project and recommends mitigation measures to reduce impacts, where feasible.

As discussed in this EIR, implementation of the project would result in a significant and unavoidable impact to transportation (related to vehicle miles traveled). For all other environmental issue areas, the project would result in no impact or impacts that are either less than significant or less than significant with mitigation incorporated.

6.2 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines mandates that the growth inducing nature of a proposed project be discussed. This CEQA Guideline states the growth-inducing analysis is intended to address the potential for the proposed project to "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Further, the CEQA Appendix G Checklist (Population and Housing) also mandates that a CEQA document speak to the proposed project's likelihood to induce substantial population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure).

A project may be distinguished as either facilitating planned growth or inducing unplanned growth. Facilitating growth is relating to the establishment of direct employment, population, or housing growth that would occur within a project site. Inducing growth is related to lowering or removing barriers to growth or by creating an amenity or facility that attracts new population/economic activity. For purposes of this EIR analysis, a significant growth inducement impact would occur if the project, and associated infrastructure improvements, directly or indirectly removes obstacles to growth such that the induced growth would significantly burden existing community services, the environment or cause a demand for General Plan Amendments. This section contains a discussion of the growth inducing factors related to the project and as defined under CEQA Guidelines Section 15126.2(d). A project is defined as growth inducing when it directly or indirectly:

1. Fosters population growth
2. Includes the construction of additional housing in the surrounding environment
3. Removes obstacles to population growth

4. Taxes existing community service facilities, requiring construction of new facilities that could cause significant environmental effects
5. Encourages or facilitates other activities that could significantly affect the environments, either individually or cumulatively

It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The project would require a temporary construction workforce and a permanent operational workforce, both of which could potentially induce population growth in the project area. The temporary workforce would be needed to construct the light industrial building and associated improvements. The number of construction workers needed during any given period would largely depend on the specific stage of construction, but would likely range from a dozen to several dozen workers on a daily basis.

The project is proposed to support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. As such, the project's temporary and permanent employment requirements could likely be met by the City of San Marcos's (City) existing labor force without people needing to relocate into the project region, and the project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans.

As discussed above, the City of San Marcos is forecasted to grow from 94,258 persons in 2016 to 119,098 persons in 2050, which is a population increase of 24,840 (SANDAG 2021). As such, the project-related increase of approximately 60 employees would represent a nominal percentage of the City's projected future population.

Projects that physically remove obstacles to growth, or projects that indirectly induce growth, are those that many provide a catalyst for future unrelated development in the area. The project would involve installation of domestic water lines, storm drain lines, and sewer lines within the project site. The purpose of these new utilities is solely to serve the needs of the project, and not to provide capacity for future projects or growth. In addition, since the surrounding project area is already served by existing wet and dry utilities, the project would not expand domestic water, sanitary sewer, or stormwater drainage infrastructure into areas not previously served by such utilities.

Further, given that the surrounding project area is already served by existing wet and dry utilities, it is unlikely that the project would tax existing community service facilities or require construction or expansion of new regional-scale facilities with capacity to serve more than just the project. Although street improvements are planned as part of the project, including site access to the project, the project would not extend an existing roadway facility into an area that is not currently provided vehicular access; thus, the project would not result in indirect population growth by providing vehicular access to an area presently lacking such access.

Based on the proximity of the project site to existing facilities, the average response times in the project area, the ability for nearby cities to respond to emergency calls, and the fact that the project site is already located within the San Marcos Fire Protection District and San Diego County Sheriff's Department service areas, the project would be adequately served by public services without the construction of new, or the expansion of existing, facilities. Although the project could potentially result in an incremental increase in calls for service to the project site compared to existing conditions, this increase is expected to be nominal (as opposed to new residential or commercial/retail land uses, which do result in greater increase in calls for service) and would not result in the need for new or expanded fire or police facilities. Lastly, since the project would not directly or indirectly induce unplanned population growth in the City, it is not anticipated that many people would relocate to the City as a result of the project, and an increase in school-age children requiring public education is not expected to occur as a result. Thus, the need for new or expanded school facilities is not required.

In conclusion, the project could cause population growth through new job opportunities. However, this growth falls well within San Marcos and regional growth projections for population and housing. The project would not remove obstacles to population growth, and would not cause an increase in population such that new community facilities or infrastructure would be required outside of the project site. Lastly, the project is not expected to encourage or facilitate other activities that could significantly affect the environment, as explained above. For these reasons, the project is not considered to be significantly growth inducing.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines, Section 15126.2(c), requires that an EIR identify any significant irreversible environmental changes associated with the project. Such changes include, for example, the intensification of land use or irreversible damage from environmental accidents associated with the project.

6.3.1 Change in Land Use that Commits Future Generations to Similar Uses

According to the City's General Plan, the land use and zoning designations for the project site are Light Industrial (LI) and Light Industrial (L-I), respectively (City of San Marcos 2012, 2022). As discussed in Section 3.10, Land Use and Planning, of this EIR, the project is consistent with the project site's land use and zoning designations applied by the City's General Plan and Municipal Code. As such, although construction of the project would develop a total of 67,410 square feet of light industrial space on the project site, the City already committed the site to light industrial (and similar) uses when the City designated and zoned the site as Light Industrial (LI) and Light Industrial (L-I), respectively.

Land uses surrounding the project site include industrial and mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the

east. The project would support the expansion of the existing operations of Hughes Circuits Inc., currently located adjacent to the project site to the south, at 546 S. Pacific Street. Since the project site is located near and adjacent to existing urbanized uses, including other industrial uses, the project would not result in land use changes that would commit future generations to uses that already occur in the project area. Thus, implementation would not commit future generations to similar uses, given that this proposed use is already found throughout the City.

6.3.2 Irreversible Damage from Environmental Accidents

Potential environmental accidents of concern include those events that would adversely affect the environment or public due to the type or quantity of materials released and the receptors exposed to that release. Construction activities associated with the project would involve some risk of environmental accidents. However, these activities would be conducted in accordance with all applicable federal, state, and local regulations, and would follow professional industry standards for safety. Once operational, any materials associated with environmental accidents would comply with applicable federal, state, and local regulations. Use of any such materials would not adversely affect the environment or public due to the type or quantity of materials released and the receptors exposed to that release.

6.3.3 Large Commitment of Nonrenewable Resources

Commitment of nonrenewable resources includes issues related to increased energy consumption, loss of agricultural lands, and lost access to mining reserves. There would be an irretrievable commitment of labor, capital, and materials used during construction and operation of the project. Nonrenewable resources would primarily be committed in the form of fossil fuels such as fuel, oil, natural gas, and gasoline used by equipment associated with construction of the project. Consumption of other non-renewable or slowly renewable resources would also occur. These resources would include lumber and other forest products, sand and gravel, asphalt, and metals such as steel, copper, and lead.

To ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code [PRC] Section 21100[b][3]). Energy conservation implies that a project's cost-effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost-effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving a project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

Consistent with PRC Section 21100(b)(3), Appendix G of the CEQA Guidelines, and a ruling set forth by the court in California Clean Energy Committee v. City of Woodland, potentially significant energy

implications of a project must be considered in an EIR to the extent relevant and applicable to that project. Accordingly, based on the energy consumption thresholds set forth in both Appendix F and Appendix G of the CEQA Guidelines, the project's estimated energy demands (both short-term construction and long-term operational demands) were evaluated (see Section 3.5, Energy, of this EIR). The overall purpose of the energy analysis was to evaluate whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy.

As further assessed in the energy analysis, for new development, such as that proposed by the project, compliance with California Title 24 energy efficiency requirements is considered demonstrable evidence of efficient use of energy. The project would provide for and promote energy efficiencies beyond those required under other applicable federal and state standards and regulations, and in so doing would meet or exceed all Title 24 standards. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy.

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7 REFERENCES

CHAPTER 1: EXECUTIVE SUMMARY

City of San Marcos. 2020. *Transportation Impact Analysis Guidelines*. City of San Marcos, California. November 16, 2020. https://www.san-marcos.net/home/showpublisheddocument/25036/637412185038870000.

CHAPTER 2: PROJECT DESCRIPTION

CARB (California Air Resources Board). 2020. "State Area Designations." October 2020. Accessed February 2022. http://www.arb.ca.gov/desig/adm/adm.htm.

City of San Diego. 2007. *City of San Diego Draft General Plan Final PEIR*. Section 3.2, Air Quality. Accessed November 16, 2023. https://www.sandiego.gov/sites/default/files/legacy/planning/genplan/pdf/peir/eir3p2airqualityfinal.pdf.

City of San Marcos. 2022. "City of San Marcos General Plan, Proposed Land Use Map." December 2022. Accessed November 2023. https://static1.squarespace.com/static/5e31b267da2435584e40b8eb/t/636bd91602c70967c3060c1e/1668012312949/SMGP_DraftProposedLandUseMap_11x17_220902.pdf.

City of San Marcos. 2023. "City of San Marcos Zoning Map." Accessed November 2023. https://maps.san-marcos.net/portal/apps/instant/minimalist/index.html?appid=8a52e7442cdf4b62bd2fa570a64f59a2.

CNPS (California Native Plant Society). 2021. "Inventory of Rare and Endangered Plants of California" (online ed., v8-03 0.39). Sacramento, California: California Native Plant Society. Accessed January 2022. www.rareplants.cnps.org.

EPA (U.S. Environmental Protection Agency). 2021. "EPA Region 9 Air Quality Maps and Geographic Information." December 2, 2021. Accessed February 2022. https://www3.epa.gov/region9/air/maps/index.html.

USDA (United States Department of Agriculture). 2021. Natural Resources Conservation Service, Web Soil Survey. Accessed March 15, 2021. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

WeatherSpark. 2023. "Climate and Average Weather Year Round in San Marcos." Accessed November 11, 2023. https://weatherspark.com/y/1898/Average-Weather-in-San-Marcos-California-United-States-Year-Round.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

Section 3.1: Aesthetics

Caltrans (California Department of Transportation). 2022. California State Scenic Highway System Map. Accessed April 21, 2022. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

City of San Marcos. 2012. *City of San Marcos General Plan – Conservation and Open Space Element*. Adopted February 14, 2012. Accessed April 21, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8478.

City of San Marcos. 2022. City of San Marcos Municipal Code. Accessed April 21, 2022. https://library.municode.com/ca/san_marcos/codes/code_of_ordinances.

U.S. Census Bureau. 2021a. "QuickFacts – San Marcos City, California." Updated July 1, 2021. Accessed April 21, 2022. https://www.census.gov/quickfacts/sanmarcoscitycalifornia.

U.S. Census Bureau. 2021b. "QuickFacts – Escondido City, California." Updated July 1, 2021. Accessed April 21, 2022. https://www.census.gov/quickfacts/escondidocitycalifornia.

Section 3.2: Air Quality

CAPCOA (California Air Pollution Control Officers Association. 2021. *California Emissions Estimator Model (CalEEMod) User's Guide, Version 2020.4.0*. Prepared by BREEZE Software, A Division of Trinity Consultants, in collaboration with South Coast Air Quality Management District and the California Air Districts. September. Accessed November 2021. http://caleemod.com/.

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed August 2016. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

CARB. 2009. "Fact Sheet: Air Pollution Sources, Effects and Control." December 2009.

CARB. 2011. *Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard*. June 2011. CARB Staff Report: June 2011 - SO_2 Area Designation Recommendations.

CARB. 2016. "Ambient Air Quality Standards." May 4, 2016. Accessed October 14, 2020. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CARB. 2017. "Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})" August 2017. https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health.

CARB. 2019a. “Glossary.” https://ww2.arb.ca.gov/about/glossary.

CARB. 2019b. “Ozone & Health.” https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019c. “Nitrogen Dioxide & Health.” https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019d. “Carbon Monoxide & Health.”https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2019e. “Sulfur Dioxide & Health.” https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health.

CARB. 2019f. “Overview: Diesel Exhaust and Health.” Accessed October 14, 2020. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

CARB. 2020. *State Area Designations.* October 2020. Accessed February 2022. http://www.arb.ca.gov/desig/adm/adm.htm.

CARB. 2022. “Ambient air quality data.” [digital CARB data]. iADAM: Air Quality Data Statistics. Accessed February 2022 at https://www.arb.ca.gov/adam/topfour/topfour1.php.

CDPH. 2019. *Epidemiologic Summary of* Coccidioidomycosis *in California, 2018*. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2018.pdf.

City of San Marcos. 2012. *City of San Marcos General Plan*. Adopted February 14, 2012. http://www.san-marcos.net/work/economic-development/general-plan.

County of San Diego. 2007. *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality*. Land Use and Environment Group. Department of Planning and Land Use. Department of Public Works. March 19, 2007.

County of San Diego. 2011. *San Diego County General Plan Update: Final Environmental Impact Report*. EIR No. 02-ZA-001. SCH No. 2002111067. August 2011. Accessed November 13, 2014. https://www.sandiegocounty.gov/content/sdc/pds/gpupdate/environmental.html.

County of San Diego. 2021. *County of San Diego Human and Health Services Agency, Monthly Communicable Disease Report*. May 2021. Volume 5, Issue 5: June 15, 2021. https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Monthly%20CD%20Report_May%202021.pdf.

EPA (U.S. Environmental Protection Agency). 2013. *Integrated Science Assessment for Ozone and Related Photochemical Oxidants*. EPA/600/R-10/076F. Research Triangle Park, North Carolina. February 2013.

EPA. 2016. *Integrated Science Assessment for Oxides of Nitrogen—Health Criteria*. EPA/600/R-15/068. Research Triangle Park, North Carolina. January 2016.

EPA. 2018. "Criteria Air Pollutants." March 8, 2018. Accessed October 14, 2020. https://www.epa.gov/criteria-air-pollutants.

EPA. 2021a. "EPA Region 9 Air Quality Maps and Geographic Information." December 2, 2021. Accessed February 2022 at https://www3.epa.gov/region9/air/maps/index.html.

EPA. 2021b. "Air Data: Access to Air Pollution Data." September 22, 2021. Accessed February 2022 at https://www.epa.gov/outdoor-air-quality-data/monitor-values-report.

NRC (National Research Council). 2005. *Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants*. Washington, DC: The National Academies Press. https://doi.org/10.17226/11208.

OEHHA (Office of Environmental Health Hazard Assessment). 2015. Air Toxics Hot Spots *Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February 2015. Accessed January 2019. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

SANDAG (San Diego Association of Governments). 2015. *San Diego Forward: The Regional Plan*. October 2015. Accessed April 2017. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

SANDAG. 2021. *SANDAG 2021 Regional Plan*. Adopted December 10, 2021. Accessed April 2022. https://sdforward.com/mobility-planning/2021-regional-plan.

SDAPCD (San Diego Air Pollution Control District). 1976. Rules and Regulations. Regulation IV. Prohibitions. Rule 51. Nuisance. Effective November 8, 1976. Accessed June 2017. https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50-1-51.pdf.

SDAPCD. 1979. Rules and Regulations. Regulation IV. Prohibitions. Rule 67.7. Cutback and Emulsified Asphalts. Effective August 29, 1979. Accessed June 2017. https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R67-7.pdf.

SDAPCD. 1997. *SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions*. Effective August 13, 1997. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50.pdf.

SDAPCD. 2005. *Measures to Reduce Particulate Matter in San Diego County*. December 2005. Accessed March 2021. https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/PM-Measures.pdf.

SDAPCD. 2009a. *2009 Regional Air Quality Strategy Revision*. April 2009. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2009-RAQS.pdf.

SDAPCD. 2009b. SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. June 24, 2009. Accessed October 2017. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.

SDAPCD. 2012. *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County*. Adopted December 5, 2012. San Diego, California: SDAPCD. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/8_Hour_03_Maint-Plan.pdf.

SDAPCD. 2015a. SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. June 24, 2015. https://www.arb.ca.gov/DRDB/SD/CURHTML/R67.0.1.pdf.

SDAPCD. 2015b. Air Toxics "Hot Spots" Program Report for San Diego County.

SDAPCD. 2016. *2016 Revision of the Regional Air Quality Strategy for San Diego County*. December 2016. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2016%20RAQS.pdf.

SDAPCD. 2017. *Annual Air Monitoring Network Plan 2016*. Effective June 30, 2017. Accessed December 2017. https://www.sdapcd.org/content/dam/sdc/apcd/monitoring/2016_Network_Plan.pdf.

SDAPCD. 2019. *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (HRAs).* May 2019. Accessed January 2020. https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_Hot_Spots_Supplemental_Guidelines.pdf.

SDAPCD. 2020. Rule 20.2 – New Source Review Non-Major Stationary Sources. October 16, 2020. https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-20.2.pdf.

SDAPCD. 2021. Rule 20.3 – New Source Review Major Stationary Sources and PSD Stationary Sources. October 14, 2021. Accessed April 2022. https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-20.3-2021.pdf.

SDAPCD. 2022. *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessment (HRAs).* July 2022. https://www.sdapcd.org/content/dam/sdapcd/documents/permits/air-toxics/Hot-Spots-Guidelines.pdf.

USGS (United States Geological Survey). 2000. *Operational Guidelines (version 1.0) for Geological Fieldwork in Areas 1 Endemic for Coccidioidomycosis (Valley Fever).*

Section 3.3: Biological Resources

AMEC Earth & Environmental, Conservation Biology Institute, Onaka Planning & Economics, and The Rick Alexander Company. 2003. *Final Multiple Habitat Conservation Program Plan, Volume I*. March.

AOS (American Ornithological Society). 2020. "Check-List of North and Middle American Birds." http://checklist.aou.org/.

CDFW (California Department of Fish and Wildlife). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities*. State of California, California Natural Resources Agency Department of Fish and Wildlife. March 20, 2018.

CDFW. 2021. RareFind, Version 5.2.14 (Commercial Subscription). California Natural Diversity Database (CNDDB). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed December 2020. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

City of San Marcos. 2012. *City of San Marcos General Plan*. Adopted February 14, 2012. https://www.san-marcos.net/work/economic-development/general-plan.

CNPS (California Native Plant Society). 2001. *CNPS Botanical Survey Guidelines*. December 9, 1983; revised June 2, 2001. https://cnps.org/wp-content/uploads/2018/03/cnps_survey_guidelines.pdf.

CNPS. 2021. "Inventory of Rare and Endangered Plants of California" (online ed., v8-03 0.39). Sacramento, California: California Native Plant Society. Accessed January 2022. www.rareplants.cnps.org.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979; reprinted 1992. http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding,* 7th ed. Edited by J.J. Moriarty. Society for the Study of Amphibians and Reptiles Herpetological Circular No. 39. August 2012. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.

Cypher, E. 2002. *General Rare Plant Survey Guidelines*. California State University, Stanislaus Endangered Species Recovery Program. Last revised July 2002. https://www.gsweventcenter.com/Website_Refs/20020700.pdf.

Google Earth. 2021. Google Earth Imagery. Accessed January 2021.

Helix Environmental Planning. 2005. Figure 4: *Vegetation and Sensitive Resources/Impacts for the San Marcos Superior Ready Mix Parcel* [map].

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October 1986.

Jepson Flora Project. 2020. *Jepson eFlora*. Berkeley, California: University of California. Accessed July 2022. http://ucjeps.berkeley.edu/eflora/.

NABA (North American Butterfly Association). 2016. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed July 2022. http://www.naba.org/pubs/enames2_3.html.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County.* March 2008.

SDNHM (San Diego Natural History Museum). 2002. "Butterflies of San Diego County." Revised September 2002. http://www.sdnhm.org/archive/research/entomology/sdbutterflies.html.

SDNHM. 2021. *San Diego County Plant Atlas Project: The Plants of San Diego and Imperial Counties, California.* Online ed. Accessed January 2022. http://www.sdplantatlas.org.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed January 2022. http://www.usace.army.mil/CECW/Pages/reg_supp.aspx.

USACE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* ERDC/CRREL TR-08-12. ACOE, Cold Regions Research and Engineering Laboratory. Accessed January 11, 2021. https://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf.

USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol*.

USFWS. 2021a. Information for Planning and Consultation (IPaC). Accessed January 2022. https://ecos.fws.gov/ipac/.

USFWS. 2021b. "National Wetlands Inventory." Washington, D.C.: USFWS. Accessed January 2022. http://www.fws.gov/wetlands/.

USDA (U.S. Department of Agriculture). 2020a. Web Soil Survey [web application]. Accessed January 2022. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

USDA. 2020b. California State PLANTS Checklist. National Plant Data Team, Greensboro, NC 27401-4901 USA. Accessed July 2022. https://plants.usda.gov/dl_state.html.

USDA. 2021. "Soil Data Access (SDA) Hydric Soils List." USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed April 2021. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html.

USGS. 2021a. "National Hydrography Dataset, Flowline Map" [map]. Accessed January 2022. http://nhd.usgs.gov/data.html.

USGS. 2021b. "Data for San Marcos, California" [digital GIS data]. National Hydrography Dataset. Accessed January 2022. http://nhd.usgs.gov/https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html.

Unitt, P. 2004. *San Diego County Bird Atlas*. San Diego, California: San Diego Natural History Museum.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. (MSW3 database). http://www.bucknell.edu/msw3/.

Section 3.4: Cultural Resources

City of San Marcos. 2012. *City of San Marcos General Plan – Conservation and Open Space Element*. Adopted February 14, 2012. Accessed April 5, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8478.

NETR (Nationwide Environmental Title Research). 2022. Historical Aerials. Accessed April 22, 2022. https://www.historicaerials.com/viewer.

USDA (U.S. Department of Agriculture). 2022. Web Soil Survey [web application]. Accessed January 2022. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

Section 3.5: Energy

APA (American Planning Association). 2011. *Planning for Wind Energy*. https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/research/wind/pdf/pas566.pdf.

CARB (California Air Resources Board). 2021a. "Advanced Clean Cars Program." Accessed December 2021 at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about.

CARB. 2021b. *Advanced Clean Trucks Fact Sheet*. August 20, 2021. https://ww2.arb.ca.gov/sites/default/files/2021-08/200625factsheet_ADA.pdf.

CARB. 2022. EMFAC 2021. Accessed September 2022. https://arb.ca.gov/emfac/emissions-inventory.

CEC (California Energy Commission). 2021. 2021 Integrated Energy Policy Report Update. Adopted February 20, 2019.

CEC. 2022a. "Electricity Consumption by Entity." Accessed September 2022. http://www.ecdms.energy.ca.gov/elecbyutil.aspx.

CEC. 2022b. "Gas Consumption by Entity." Accessed September 2022. http://ecdms.energy.ca.gov/gasbyutil.aspx.

City of San Marcos. 2012. *City of San Marcos General Plan*. Adopted February 14, 2012. http://www.san-marcos.net/work/economic-development/general-plan.

City of San Marcos. 2020. *City of San Marcos Final Climate Action Plan.* Adopted December 2020. Accessed September 2022. https://www.san-marcos.net/home/showpublisheddocument/25084/637435406644270000.

CPUC (California Public Utilities Commission). 2021. 2021 California Renewables Portfolio Standards Annual Report. November 2021. Accessed May 25, 2022. https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/documents/energy/rps/cpuc-2021-rps-annual-report-to-legislature.pdf.

CPUC. 2022. "Natural Gas and California." Accessed September 2022. https://www.cpuc.ca.gov/natural_gas/.

EIA (U.S. Energy Information Administration). 2021a. "California Electricity Profile 2020." Released November 4, 2021. Accessed September 2022. https://www.eia.gov/electricity/state/california/index.php.

EIA. 2021b. "Natural Gas Consumption By End Use (California, 2020)." Released August 31, 2022. Accessed September 2022. https://www.eia.gov/dnav/ng/ng_cons_sum_a_EPG0_VC0_mmcf_a.htm.

EIA. 2022. "California State Profile and Energy Estimates – Table F16: Total Petroleum Consumption Estimates, 2020." Accessed September 2022. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA.

EPA (U.S. Environmental Protection Agency). 2017. "Overview for Renewable Fuel Standard." Last updated June 7, 2017. Accessed April 2022. https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard.

NREL (National Renewable Energy Laboratory). 2015. *Small Wind Site Assessment Guidelines*. https://www.nrel.gov/docs/fy15osti/63696.pdf.

NREL. 2022. "PVWatts Model." https://pvwatts.nrel.gov/.

SANDAG (San Diego Association of Governments). 2021. *SANDAG 2021 Regional Plan*. Adopted December 10, 2021. Accessed April 2022. https://sdforward.com/mobility-planning/2021-regional-plan.

SDG&E (San Diego Gas & Electric). 2022. "About Us." Accessed May 25, 2022. https://www.sdge.com/more-information/our-company/about-us.

The Climate Registry. 2021. Default Emission Factors. May 1. Accessed March 2022. https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf?mc_cid=4b45d12237&mc_eid=5f138d1baa.

Section 3.6: Geology and Soils

California Building Standards Commission. 2020. California Uniform Building Code. Updated January 1, 2020. Accessed May 25, 2022. https://www.dgs.ca.gov/BSC/Codes.

City of San Marcos. 2012. City of San Marcos General Plan – Safety Element. Approved February 14, 2012. Accessed May 25, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8476.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2022. "The ICS International Chronostratigraphic Chart." Episodes 36: 199–204. 2013; updated. https://stratigraphy.org/ICSchart/ChronostratChart2022-02.pdf.

Colbert, M. W. 2006. "*Hesperaletes* (Mammalia: Perissodactyla), a new tapiroid from the middle Eocene of southern California." *Journal of Vertebrate Paleontology*. 26(3): 697–711.

County of San Diego. 2009. *Guidelines for Determining Significance: Paleontological Resources*. San Diego, California: County of San Diego Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works. Approved March 19, 2007; modified January 15, 2009.

County of San Diego. 2017. *Multi-Jurisdictional Hazard Mitigation Plan*. Updated October 2017. Accessed May 25, 2022. https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/HazMit/2018/2018%20Hazard%20Mitigation%20Plan.pdf.

Deméré, T.A., and S.L. Walsh, 1993. *Paleontological Resources, County of San Diego*. Prepared for the San Diego Planning Commission.

DOI (U.S. Department of Interior). 2000. *Assessment of Fossil Management on Federal & Indian Lands*. https://www.blm.gov/sites/blm.gov/files/programs_paleontology_quick%20links_Assessment%20of%20Fossil%20Management%20on%20Federal%20%26%20Indian%20Lands%2C%20May%202000.pdf.

English, W.A., and P.W. Prutzman. 1926. "Geology and Oil Resources of the Puente Hills Region, Southern California, with a Section on the Chemical Character of the Oil." *U.S. Geological Survey Bulletin* 768. https://doi.org/10.3133/b768.

Haug, C.; Nyborg, T.; and Vega, F. J. 2013. "An exceptionally preserved upogebiid (Decapoda: Reptantia) from the Eocene of California." *Boletín de la Sociedad Geológica Mexicana* 65(2): 235–248.

Kennedy, M.P., Tan, S.S., Bovard, K.R., Alvarez, R.M., Watson, M.J., and Gutierrez, C.I. 2007. Geologic map of the Oceanside 30X60 quadrangle, California. California Geological Survey, Regional Geologic Map RGM-2. Scale 1:100,000.

Kennedy, M.P. and S.S. Tan. 2007. Geologic map of the Oceanside 30X60 quadrangle, California. California Geological Survey, Map pamphlet.

López-Torres, S.; Silcox, M.T.; Holroyd, P.A. 2018. "New omomyoids (Euprimates, Mammalia) from the late Uintan of southern California, USA, and the question of the extinction of the Paromomyidae (Plesiadapiformes, Primates)." *Palaeontologia Electronica* 21(3).

Mihlbachler, M.C., and T.A. Deméré. 2009, A new species of Brontotheriidae (Perissodactyla, Mammalia) from the Santiago Formation (Duchesnian,Middle Eocene) of Southern California: Proceedings of the San Diego Society of Natural History, v. 41, p. 1–36.

Mihlbachler, M.C. and T.A. Deméré, 2010. Phylogenetic status of *Metarhinus pater* (Brontotheriidae: Perissodactyla) from Southern California and species variation in *Metarhinus* from the middle Eocene of North America. Journal of Vertebrate Paleontology 30(4): 1229–1244.

Schoellhamer, J.E., J.G. Vetter, R.F. Yerkes, and D.M. Kinney. 1981. Geology of the Northern Santa Ana Mountains, California. U.S. Geological Survey Paper 420-D. 109p.

SDNHM. 2023. Paleontological Records Search- Hughes Circuits Project. Unpublished Records Search Results Letter from the San Diego Natural History Museum, San Diego, California. Letter by Kirstin Mueller. February 6, 2023.

SVP (Society of Vertebrate Paleontology). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. http://vertpaleo.org/The-Society/Governance-Documents/SVP_Impact_Mitigation_Guidelines.aspx.

Theodor, J.M. 1999. "Protoreodon walshi, a New Species of Agriochoerid (Oreodonta, Artiodactyla, Mammalia) from the Late Uintan of San Diego County, California." *Journal of Paleontology* 73(6): 1179–1190.

Tomiya, S. 2011. "A New Basal Caniform (Mammalia: Carnivora) from the Middle Eocene of North America and Remarks on the Phylogeny of Early Carnivorans." *PLOS ONE* 6(9).

Tomiya, S. 2013. "New carnivoraforms (Mammalia) from the middle Eocene of California, USA, and comments on the taxonomic status of 'Miacis' gracilis." *Palaeontologia Electronica* Vol. 16, Issue 2; 14A; 29p.

Zack, S.P.; Poust, A.W.; Wagner, H. 2022. "*Diegoaelurus*, a new machaeroidine (Oxyaenidae) from the Santiago Formation (late Uintan) of southern California and the relationships of Machaeroidinae, the oldest group of sabertooth mammals." PeerJ. 10.

Section 3.7: Greenhouse Gas Emissions

CAPCOA (California Air Pollution Control Officers Association. 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.

CARB (California Air Resources Board). 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework.* May 2014. Accessed October 14, 2020 at http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2015. "Glossary of Terms Used in GHG Inventories." https://www.arb.ca.gov/cc/inventory/faq/ghg_inventory_glossary.htm.

CARB. 2017a. *The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target*. January 20, 2017. Accessed October 14, 2020. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2017b. *Short-Lived Climate Pollutant Reduction Strategy*. March 2017. Accessed October 14, 2020 at https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf.

CARB. 2021a. "Current California GHG Emission Inventory Data: 2000-2019 GHG Inventory (2021 Edition)." https://ww2.arb.ca.gov/ghg-inventory-data?utm_medium=email&utm_source=govdelivery.

CARB. 2021b. "Advanced Clean Cars Program." Accessed December 2021. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about.

CARB. 2021c. *Advanced Clean Trucks Fact Sheet*. August 20, 2021. https://ww2.arb.ca.gov/sites/default/files/2021-08/200625factsheet_ADA.pdf.

CARB. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf.

CAT (California Climate Action Team). 2016. "Climate Action Team Reports." Accessed December 2016. http://climatechange.ca.gov/climate_action_team/reports/index.html.

City of San Marcos. 2012. *City of San Marcos General Plan*. Adopted February 14, 2012. http://www.san-marcos.net/work/economic-development/general-plan.

City of San Marcos. 2020. *City of San Marcos Final Climate Action Plan.* Adopted December 2020. Accessed March 2021. https://www.san-marcos.net/home/showpublisheddocument?id=25084.

CNRA (California Natural Resources Agency). 2009a. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

CNRA. 2009b. *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*. Accessed October 14, 2020. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.

CNRA. 2014. *Safeguarding California: Reducing Climate Risk: An Update to the 2009 California Climate Adaptation Strategy.* July 2014. Accessed October 14, 2020. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.

CNRA. 2016. *Safeguarding California: Implementation Action Plans*. March 2016. Accessed October 14, 2020. http://resources.ca.gov/docs/climate/safeguarding/Safeguarding%20California-Implementation%20Action%20Plans.pdf.

CNRA. 2018. *Safeguarding California Plan: 2018 Update: California's Climate Adaptation Strategy.* January 2018. Accessed October 14, 2020 at http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf.

EPA (U.S. Environmental Protection Agency). 2016. "Sulfur Dioxide Designations: EPA Completes Second Round of Sulfur Dioxide Designations." Accessed June 30, 2016. https://www.epa.gov/sulfur-dioxide-designations/epa-completes-second-round-sulfur-dioxide-designations.

EPA. 2017. "Climate Change." Last updated January 19, 2017. Accessed May 19, 2021 at https://19january2017snapshot.epa.gov/climatechange_.html.

EPA. 2021. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2019*. EPA 430-R-21-005. April 2021. Accessed July 2021 at https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf.

EPA and NHTSA (U.S. Environmental Protection Agency and Department of Transportation's National Highway Traffic Safety Administration). 2016. *EPA and NHTSA Adopt Standards to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond*. August 2016. Accessed October 14, 2020 at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P7NL.PDF?Dockey=P100P7NL.PDF.

EPA and NHTSA. 2018. *The Safer Affordable Fuel-Efficient 'SAFE' Vehicles Rule for Model Years 2021-2026 Passenger Vehicles and Light Trucks*. Proposed Rule August 2018. Accessed October 14, 2020 at https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

IPCC (Intergovernmental Panel on Climate Change). 1995. *IPCC Second Assessment: Climate Change 1995*. A Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland: IPCC. https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.

IPCC. 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp. Accessed October 14, 2020 at https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf.

IPCC. 2013. *Climate Change 2013: The Physical Science Basis*. *Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,* edited by T.F. Stocker, D. Qin, G.K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley. New York, New York: Cambridge University Press. Accessed October 14, 2020 at http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.

IPCC. 2014. *Climate Change 2014: Synthesis Report*. *Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by R.K. Pachauri and L.A. Meyer. Geneva, Switzerland: IPCC. Accessed October 14, 2020 at https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf.

IPCC. 2018. "Summary for Policymakers." In *Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Accessed May 19, 2021. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

OEHHA (Office of Environmental Health Hazard Assessment. 2018. *Indicators of Climate Change in California.* May 9, 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

OPR (Governor's Office of Planning and Research). 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.*

PBL (PBL Netherlands Environmental Assessment Agency). 2020. *Trends in Global CO_2 and Total Greenhouse Gas Emissions, 2019 Report*. Accessed October 14, 2020. https://www.pbl.nl/sites/default/files/downloads/pbl-2020-trends-in-global-co2-and-total-greenhouse-gas-emissions-2019-report_4068.pdf.

SANDAG (San Diego Association of Governments). 2015. *San Diego Forward: The Regional Plan*. October 2015. Accessed April 2017. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

SANDAG. 2021. *SANDAG 2021 Regional Plan*. Adopted December 10, 2021. Accessed April 2022. https://sdforward.com/mobility-planning/2021-regional-plan.

Section 3.8: Hazards and Hazardous Materials

CAL FIRE (California Department of Forestry and Fire Protection). 2022. Fire Hazard Severity Zone Viewer. Accessed April 28, 2022. https://egis.fire.ca.gov/FHSZ/.

CalEPA (California Environmental Protection Agency). 2022. Cortese List Data Sources. https://calepa.ca.gov/sitecleanup/corteselist/.

City of San Marcos. 2012. City of San Marcos General Plan – Safety Element. Approved February 14, 2012. Accessed March 30, 2021. https://www.san-marcos.net/home/showpublisheddocument?id=8476.

County of San Diego. 2017. *Multi-Jurisdictional Hazard Mitigation Plan*. Updated October 2017. Accessed May 25, 2022. https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/HazMit/2018/2018%20Hazard%20Mitigation%20Plan.pdf.

DTSC (Department of Toxic Substances Control). 2022. "EnviroStor." Accessed April 28, 2022. https://www.envirostor.dtsc.ca.gov/public/map/.

RWQCB (Regional Water Quality Control Board). 2022. "Sites and Facilities." Accessed April 28, 2022. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Search+GeoTracker.

San Diego County Regional Airport Authority. 2011. McClellan-Palomar Airport Land Use Compatibility Plan. Amended December 1, 2011. Accessed March 30, 2021. https://www.lee-associates.com/elee/sandiego/LeeLandTeam/Ponto/McClellan-Palomar_ALUCP_20111.pdf.

San Marcos Fire Department. 2007. *Wildlife Urban Interface/Community Wildfire Protection Plan*. Adopted December 2007. Accessed March 30, 2021.https://www.san-marcos.net/home/showdocument?id=3680.

Section 3.9: Hydrology and Water Quality

Carlsbad Watershed Management Area Responsible Agencies. 2021. *Carlsbad Watershed Management Area Water Quality Improvement Plan*. Accepted December 13, 2021. July 15, 2022. https://projectcleanwater.org/download/carlsbad-wma-wqip-updated-2021/.

City of San Marcos. 2012a. *City of San Marcos General Plan – Conservation and Open Space Element*. Adopted February 14, 2021. Accessed June 1, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8478.

City of San Marcos. 2012b. *City of San Marcos General Plan – Safety Element*. Adopted February 14, 2021. Accessed June 1, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8476.

City of San Marcos. 2012c. *City of San Marcos General Plan – Land Use and Community Design Element*. Adopted February 14, 2012. https://www.san-marcos.net/home/showpublisheddocument?id=8480.

County of San Diego. 2020. County of San Diego BMP Design Manual for Permanent Site design, Storm Water Treatment and Hydromodification Management. Effective September 15, 2020. Accessed June 1, 2022. https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/DevelopmentandConstruction/BMP_Design_Manual.html.

FEMA (Federal Emergency Management Agency). 2012. National Flood Hazard Layer FIRMette. 06073C0789H. Dated May 16, 2012. Accessed June 1, 2022. https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/mscprintb_gpserver/jf5dace4591c24dee9ca4ea39c23549a3/scratch/FIRMETTE_98a0d1c2-c5bb-48f9-8c74-af87d198e665.pdf.

MWD (Metropolitan Water District of Southern California). 2021. 2020 Urban Water Management Plan. Adopted June 2021. Accessed July 15, 2022. https://wuedata.water.ca.gov/public/uwmp_attachments/5202375113/MWDSC%202020%20Urban%20Water%20Management%20Plan%20-%20June%202021%20WUE%20Portal.pdf.

Regional Water Quality Control Board (RWQCB). 2022. San Diego Basin Plan Map GIS webpage. Accessed June 1, 2022. https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=1f58bd97fdcd45329a5e16e373ede24d.

SWRCB (State Water Resources Control Board). 2002. SDRWQCB Watershed Management Approach. Appendix A, Overview of San Diego Region Watershed Management Areas. Approved January 25, 2002. Accessed June 1, 2022. https://www.waterboards.ca.gov/sandiego/water_issues/programs/wmc/docs/wmchapxa102.pdf.

SWRCB. 2015. San Diego Region – Phase I Municipal Storm Water Permit. Amended November 18, 2015. Accessed July 15, 2022. https://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/sd_stormwater.html.

Section 3.10: Land Use and Planning

CAL FIRE (California Department of Forestry and Fire Protection). 2009. Very High Fire Hazard Severity Zones in LRA. Accessed June 15, 2022. https://osfm.fire.ca.gov/media/5970/san_marcos.pdf.

City of San Marcos. 2012. City of San Marcos General Plan – Land Use and Community Design Element. Adopted February 14, 2012. Accessed May 5, 2022. https://www.san-marcos.net/home/showpublisheddocument/8480/636570701878000000.

City of San Marcos. 2012b. City of San Marcos General Plan – Safety Element. Adopted February 14, 2012. Accessed April 8, 2021. https://www.san-marcos.net/home/showpublisheddocument?id=8476.

City of San Marcos. 2022. City of San Marcos Municipal Code. Updated April 20, 2022. Accessed May 17, 2022. https://library.municode.com/ca/san_marcos/codes/code_of_ordinances.

San Diego County Regional Airport Authority. 2011. McClellan-Palomar Airport Land Use Compatibility Plan. Amended December 1, 2011. Accessed April 2, 2021. https://www.lee-associates.com/elee/sandiego/LeeLandTeam/Ponto/McClellan-Palomar_ALUCP_20111.pdf.

SANDAG (San Diego Association of Governments). 2001. *Draft Natural Community Conservation Plan for the City of San Marcos*. Adopted May 2001. Accessed April 2, 2021. https://www.sandag.org/uploads/publicationid/publicationid_153_8102.pdf.

SANDAG. 2003. *Multiple Habitat Conservation Program*. Approved March 2003. Accessed April 2, 2021. https://www.sandag.org/index.asp?projectid=97&fuseaction=projects.detail.

SANDAG. 2019. *San Diego Forward – 2019 Federal Regional Transportation Plan*. Approved November 15, 2019. Accessed April 2, 2021. https://sdforward.com/2019-federal-rtp.

SDCSD (San Diego County Sheriff's Department). n.d. San Diego County Sheriff's Department – San Marcos Station webpage. Accessed May 23, 2022. https://www.sdsheriff.gov/Home/Components/FacilityDirectory/FacilityDirectory/40/61.

Section 3.11: Noise

Caltrans (California Department of Transportation). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

Caltrans. 2020. *Transportation and Construction Vibration Guidance Manual*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, California. April. tps://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

City of San Marcos. 2012. *City of San Marcos General Plan, Noise Element*. https://www.san-marcos.net/home/showpublisheddocument/8475/636573113849130000.

City of San Marcos. 2017. City of San Marcos Noise Ordinance (Chapter 10.24 and 20.300.070(F)). https://library.municode.com/ca/san_marcos/codes/code_of_ordinances?nodeId=TIT10PUSAMOWE_CH10.24NO.

City of San Marcos. 2022. Zoning Map. http://maps2.san-marcos.net/mapgallery/map.html?webmap=0d07611e9fc64aefab39468b1f459409.

FHWA (Federal Highway Administration). 2004. FHWA Traffic Noise Model Version 2.5.

FHWA. 2006. *FHWA Roadway Construction Noise Model User's Guide*. Final Report January 2006. https://www.gsweventcenter.com/Draft_SEIR_References/2006_01_Roadway_Construction_Noise_Model_User_Guide_FHWA.pdf.

FHWA. 2008. Roadway Construction Noise Model (RCNM), Software Version 1.1. U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division. Washington, D.C. December 8, 2008.

FTA (Federal Transit Administration). 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. John A. Volpe National Transportation Systems Center. September. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transitnoise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pd.

Loren Cook. 1999. *Engineering Cookbook*. Second Edition.

SDCRAA (San Diego County Regional Airport Authority). 2011. McClellan-Palomar Compatibility Factor Maps. https://www.san.org/DesktopModules/Bring2mind/DMX/API/Entries/Download?Command=Core_Download&EntryId=2979&language=en-US&PortalId=0&TabId=225.

Section 3.12: Population and Housing

City of San Marcos. 2021. 2021 – 2029 Housing Element. Adopted July 13, 2021. Accessed May 31, 2022. https://www.san-marcos.net/home/showpublisheddocument/25740/637689416879030000.

DOF (California Department of Finance). 2022. E-5 Population and Housing Estimates for Cities, Counties and the State – May 2022. Accessed May 31, 2022. https://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

SANDAG (San Diego Association of Governments). 2004. *Regional Comprehensive Plan for the San Diego Region*. Adopted July 2004. Accessed May 31, 2022. https://www.sandag.org/index.asp?projectid=1&fuseaction=projects.detail.

SANDAG. 2011. *2050 Regional Transportation Plan*. Adopted October 2011. Accessed May 31, 2022. https://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf.

SANDAG. 2020. *Regional Housing Needs Assessment 6th Housing Element Cycle 2021–2029*. Approved July 10, 2020. Accessed May 31, 2022. https://www.sandag.org/index.asp?projectid=189&fuseaction=projects.detail.

SANDAG. 2021. Series 14 Regional Growth Forecast. Adopted 2021. Accessed May 31, 2022.

Section 3.13: Public Services

City of San Marcos. 2012a. *City of San Marcos General Plan – Land Use and Community Design Element*. Approved February 14, 2012. Accessed May 23, 2022. https://www.san-marcos.net/home/showpublisheddocument/8480/636570701878000000.

City of San Marcos. 2012b. *City of San Marcos General Plan – Parks, Recreation, and Community Health Element*. Approved February 14, 2012. Accessed May 23, 2022. https://www.san-marcos.net/home/showpublisheddocument/8477/636573113841930000.

City of San Marcos. 2012c. *City of San Marcos General Plan – Safety Element*. Approved February 14, 2012. Accessed May 23, 2022. https://www.san-marcos.net/home/showpublisheddocument/8476/637732781280670000.

City of San Marcos. 2022a. "City of San Marcos Fire Department – Department Overview." Accessed May 23, 2022. https://www.san-marcos.net/departments/public-safety/fire-department/department-overview.

City of San Marcos. 2022b. "City of San Marcos Fire Department – Fire Department Facilities, Fire Station #2." Accessed May 23, 2022. https://www.san-marcos.net/Home/Components/FacilityDirectory/FacilityDirectory/597/1141.

City of San Marcos. 2022c. City of San Marcos – Library webpage. Accessed May 23, 2022. https://www.san-marcos.net/live/library.

City of San Marcos. 2022d. City of San Marcos Municipal Code. Updated April 20, 2022. Accessed May 17, 2022. https://library.municode.com/ca/san_marcos/codes/code_of_ordinances.

San Diego County Library. 2022. "San Diego County Library – San Marcos Branch Library." Accessed May 23, 2022. https://www.sdcl.org/locations/32/.

SDCSD (San Diego County Sheriff's Department). n.d. San Diego County Sheriff's Department – San Marcos Station webpage. Accessed May 23, 2022. https://www.sdsheriff.gov/Home/Components/FacilityDirectory/FacilityDirectory/40/61.

SMUSD (San Marcos Unified School District). 2021. *Local Control Accountability Plan (LCAP) – San Marcos Unified School District*. September 2021. Accessed May 23, 2022. https://www.smusd.org/about_us/district_overview/lcap.

Section 3.14: Recreation

City of San Marcos. 2012. City of San Marcos General Plan – Parks, Recreation, and Community Health Element. Approved February 14, 2012. Accessed May 25, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8477.

City of San Marcos 2018. Parks Master Plan Update. Updated June 2018. Accessed May 25, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=22713.

City of San Marcos. 2022a. Parks and Recreation Facilities Directory. Accessed May 25, 2022. https://www.san-marcos.net/departments/parks-recreation/parks-recreation-facilities.

City of San Marcos. 2022b. City of San Marcos Municipal Code. Updated April 20, 2022. Accessed May 17, 2022. https://library.municode.com/ca/san_marcos/codes/code_of_ordinances.

Section 3.15: Transportation

Caltrans (California Department of Transportation). 2023. *California Manual on Uniform Traffic Control Devices (CA MUTCD) 2014, Revision 7*. Effective March 10, 2023. https://dot.ca.gov/programs/safety-programs/camutcd.

CAPCOA (California Air Pollution Control Officers Association). 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. December 2021. https://www.airquality.org/ClimateChange/Documents/|Final%20Handbook_AB434.pdf.

City of San Marcos. 2012a. *City of San Marcos General Plan – Mobility Element*. https://www.san-marcos.net/home/showpublisheddocument/8479/636570701699270000.

City of San Marcos. 2012b. *City of San Marcos General Plan – Land Use and Community Design Element*. Adopted February 14, 2012. https://www.san-marcos.net/home/showpublisheddocument?id=8480.

City of San Marcos. 2012c. *City of San Marcos General Plan – Safety Element*. Approved February 14, 2012. https://www.san-marcos.net/home/showpublisheddocument?id=8476.

City of San Marcos. 2015. *Bicycle and Pedestrian Master Plan*. May 2015. https://issuu.com/ktua/docs/sm_bpmp_final_lores.

City of San Marcos. 2019. "Traffic Counts (ADT) Table." https://www.san-marcos.net/home/showpublisheddocument/22603/637017967291870000.

City of San Marcos. 2020. *Transportation Impact Analysis Guidelines*. November 16, 2020. https://www.san-marcos.net/home/showpublisheddocument/25036/637412185038870000.

SANDAG (San Diego Association of Governments). 2002. *(Not So) Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region*. April 2002.

SANDAG. 2015. *San Diego Forward: The Regional Plan*. October 2015. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

SANDAG. 2021. *SANDAG 2021 Regional Plan*. Adopted December 10, 2021. Accessed April 2022. https://sdforward.com/mobility-planning/2021-regional-plan.

SANDAG. 2022. "Transportation Forecast Information Center." https://experience.arcgis.com/experience/81b2daca1827470ca8beeb4708139f79/.

TRB (Transportation Research Board). 2016. *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. November 1, 2016.

Section 3.16: Tribal Cultural Resources

Basgall, Mark E., and Matthew C. Hall. 1990. Adaptive variation in the north-central Mojave Desert. Paper presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas, NV.

Basgall, Mark E., and Matthew C. Hall. 1993. *Archaeology of the Awl Site, CA-SBR-4562, Fort Irwin, San Bernardino County, California.* Submitted to Far Western Anthropological Research Group. Prepared for U.S. Army Corps of Engineers, Los Angeles District.

Basgall, Mark E., L. Johnson, and Micah J. Hale. 2002. *An evaluation of four archaeological sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Submitted to Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, Lowell J., and Florence C. Shipek. 1978. Luiseño. In *Handbook of North American Indians: Volume 8, California*, edited by Robert F. Hiezer, pp. 550-563. Smithsonian Institution Press, Washington DC.

Boscana, G. 1846. "Chinigchinich; A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California." In *Life in California*, by Alfred Robinson, 227-341. New York: Wiley & Putnam.

Byrd, Brian F., and Seetha N. Reddy. 2002. Late Holocene adaptations along the northern San Diego coastline: new perspectives on old paradigms. In *Catalysts to complexity: late Holocene societies of the California coast*, edited by Jon M. Erlandson, and Terry L. Jones, pp. 41-62. Cotsen Institute of Archaeology, University of California, Los Angeles, Los Angeles.

Fages, P. 1937. *A Historical, Political, and Natural Description of California* (1775). Translated by H.I. Priestly. Berkeley, California: University of California Press.

Gallegos, Dennis R. (editor). 1987. *San Dieguito-La Jolla: chronology and controversy*. San Diego County Archaeological Society, Research Paper No. 1, San Diego.

Geiger, M., and C. W. Meighan. 1976. *As the Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813-1815*. Santa Barbara, California: Santa Barbara Mission Archive Library.

Griset, S. 1996. *Southern California Brown Ware*. PhD dissertation; Department of Anthropology, University of California, Davis.

Hale, Micah J. 2001. Technological organization of the Millingstone Pattern in southern California. MA, Anthropology, California State University, Sacramento, Sacramento.

Hale, Micah J. 2009. Santa Barbara and San Diego: contrasting adaptive strategies on the southern California coast. PhD, Anthropology, University of California, Davis, Davis, CA.

Harrington, J.P. 1934. "A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California." *Smithsonian Miscellaneous Collections* 92(4). Washington, D.C.

Hector, S. 2007. *Archaeological Investigations at University House Meeting Center and Chancellor Residence, CA-SDI-4669 (SDM-W-12), University of California at San Diego, La Jolla, California*. Prepared by ASM Affiliates.

Heizer, R. 1978. "Introduction." In *California*, edited by R.F. Heizer, 1–6. *Handbook of North American Indians*, Vol. 8, edited by W.C. Sturtevant. Washington, D.C.: Smithsonian Institution.

Heizer, R. and K.M. Nissen. 1973. *The Human Sources of California Ethnography*. Berkeley, California: University of California Archaeological Research Facility, Berkeley.

Kroeber, A.L. 1925. *Handbook of the Indians of California*. Washington, D.C.: Bureau of American Ethnology Bulletin 78.

Laylander, D. 2000. *Early Ethnography of the Californias, 1533–1825*. Salinas, California: Coyote Press Archives of California Prehistory No. 47.

NETR (Nationwide Environmental Title Research). 2018. Historical Aerials. Accessed April 22, 2022. https://www.historicaerials.com/viewer.

Pigniolo, A.R. 2004. "Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego." *Proceedings of the Society for California Archaeology* 14:27–39.

Powers, S. 1877. Tribes of California. *Contributions to North American Ethnology*, Vol. III. Washington, D.C.: U.S. Government Printing Office. Reprinted by University of California Press, Berkeley, 1976.

Rivers, B. 1993. "The Pendleton Coast District: An Ethnographic and Historical Background." In *The Cultural Resources of the Pendleton Coast District*. Manuscript on file at SAIC, Santa Barbara, California.

Rogers, M.J. 1929. "The Stone Art of the San Dieguito Plateau." *American Anthropologist* 31:454–467.

Rogers, M.J. 1945. "An Outline of Yuman Prehistory." *Southwestern Journal of Anthropology* 1(1):167–198.

Sparkman, P.S. 1908. "The Culture of the Luiseño Indians." *University of California Publications in American Archaeology and Ethnology* 8:187–234.

True, D.L. 1966. "Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California." Unpublished PhD dissertation, Department of Anthropology, University of California, Los Angeles.

True, D.L. 1978. "The Pauma Complex in Northern San Diego County: 1978." *Journal of New World Archaeology* 3(4):1–39.

True, D.L. 1980. "The Pauma Complex in Northern San Diego County: 1978." *Journal of New World Archaeology* 3(4):1–39.

USDA (U.S. Department of Agriculture). 2022. Web Soil Survey. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed January 3, 2023. http://websoilsurvey.nrcs.usda.gov.

Wallace, William J. 1955. A suggested chronology for Southern California coastal archaeology. *Southwestern Journal of Anthropology* 11(3): 214–230.

Warren, Claude N. 1964. Cultural change and continuity on the San Diego Coast. PhD, Anthropology, University of California, Los Angeles, Los Angeles.

Warren, Claude N. 1968. Cultural tradition and ecological adaptation on the southern California coast. *Eastern New Mexico University Contributions in Anthropology* 1(3): 1–15.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer. 2004. *Paleoindian and early Archaic periods*. Submitted to Prehistoric and historic archaeology of metropolitan San Diego: an historic properties background study, prepared for Metropolitan Wastewater Department, San Diego, California, by ASM Affiliates, Inc., Carlsbad, California.

White, R. 1963. "Luiseño Social Organization." *University of California Publications in American Archaeology and Ethnology* 48: 91–194.

Section 3.17: Utilities and Service Systems

CalRecycle (California Department of Resources Recycling and Recovery). N.d.a. SWIS Facility Detail: Sycamore Landfill (37-AA-0023). Accessed July 25, 2022. https://www2.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0023/Detail/.

CalRecyle. N.d.b. Jurisdiction Diversion/Disposal Rate Summary (2007 – Current): San Marcos. Accessed April 12, 2021. https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006.

CalRecycle. N.d.c. SWID Facility Detail: Borrego Landfill (37-AA-0006). Accessed April 12, 2021. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2859.

CalRecycle. N.d.d. SWIS Facility Detail: Otay Landfill (37-AA-0010). Accessed April 12, 2021. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2863.

CalRecycle. N.d.e. SWIS Facility Detail: Ramona Landfill (37-AA-0005). Accessed April 12, 2021. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2858.

CalRecycle. 2019. Estimated Solid Waste Generation Rates. Accessed May 13, 2021. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates.

CalRecycle. 2021. State of Disposal and Recycling Report. December 2022. Accessed December 11, 2023. https://calrecycle.ca.gov/reports/stateof/.

CEC (California Energy Commission). 2022a. "Electricity Consumption by Entity." Accessed September 2022. http://www.ecdms.energy.ca.gov/elecbyutil.aspx.

CEC. 2022b. "Gas Consumption by Entity." Accessed September 2022. http://ecdms.energy.ca.gov/gasbyutil.aspx.

City of San Marcos. 2012a. City of San Marcos General Plan – Land Use and Community Design Element. Adopted February 14, 2012. Accessed June 13, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8480.

City of San Marcos. 2012b. City of San Marcos General Plan – Conservation and Open Space Element. Adopted February 14, 2012. Accessed June 13, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8478.

County of San Diego. 2005. Integrated Waste Management Plan – Countywide Siting Element. Accessed April 12, 2021. https://www.sandiegocounty.gov/reusable_components/images/images/dpw/recyclingpdfs/NDFE2-23-05.pdf.

MWD (Metropolitan Water District of Southern California). 2021. 2020 Urban Water Management Plan. Adopted June 2021. Accessed July 25, 2022. https://wuedata.water.ca.gov/public/uwmp_attachments/5202375113/MWDSC%202020%20Urban%20Water%20Management%20Plan%20-%20June%202021%20WUE%20Portal.pdf.

SDCWA (San Diego County Water Authority). 2021. 2020 Urban Water Management Plan. Adopted June 2021. Accessed July 25, 2022. https://wuedata.water.ca.gov/public/uwmp_attachments/7444959342/SDCWA_DWR%20Submittal%20UWMP_Final%20wApp_24Jun21.pdf.

VWD (Vallecitos Water District). 2018. 2018 Waster, Wastewater, and Recycled Water Master Plan. Adopted October 4, 2018. Accessed July 25, 2022. http://www.vwd.org/home/showdocument?id=10656.

VWD. 2021. Document Library. Accessed May 13, 2021. https://www.vwd.org/departments/engineering/document-library.

VWD. 2022. GIS Mapping. Accessed June 13, 2022. https://www.vwd.org/departments/engineering/gis-mapping.

Section 3.18: Wildfire

CAL FIRE (California Department of Forestry and Fire Protection). 2009. Very High Fire Hazard Severity Zones in LRA. Accessed June 15, 2022. https://osfm.fire.ca.gov/media/5970/san_marcos.pdf.

CAL FIRE. 2021. Fire Perimeters through 2021. Accessed June 15, 2022. https://frap.fire.ca.gov/mapping/gis-data/#panel-6ebba334-7394-403e-8d3b-cfd53fc81dcf.

City of San Marcos. 2012. *City of San Marcos General Plan – Conservation and Open Space Element.* Adopted February 14, 2021. Accessed June 1, 2022. https://www.san-marcos.net/home/showpublisheddocument?id=8478.

WeatherSpark. 2022. Average Weather in San Marcos, California. Accessed June 15, 2022. https://weatherspark.com/y/1898/Average-Weather-in-San-Marcos-California-United-States-Year-Round.

CHAPTER 4: ALTERNATIVES

City of San Marcos. 2020. *Transportation Impact Analysis Guidelines*. City of San Marcos, California. November 16, 2020. https://www.san-marcos.net/home/showpublisheddocument/25036/637412185038870000.

CHAPTER 5: EFFECTS FOUND NOT TO BE SIGNIFICANT

CDOC (California Department of Conservation). 2016. California Important Farmland Finder. Accessed May 15, 2022. https://maps.conservation.ca.gov/DLRP/CIFF/.

City of San Marcos. 2012. *City of San Marcos General Plan – Conservation Open Space Element*. Accessed May 15, 2022. https://www.san-marcos.net/home/showpublisheddocument/8478/636597348039500000.

CHAPTER 6: OTHER CEQA CONSIDERATIONS

City of San Marcos. 2012. *City of San Marcos General Plan – Land Use and Community Design Element*. Adopted February 14, 2012. Accessed May 5, 2022. https://www.san-marcos.net/home/showpublisheddocument/8480/636570701878000000.

City of San Marcos. 2022. City of San Marcos Municipal Code. Updated April 20, 2022. Accessed May 17, 2022. https://library.municode.com/ca/san_marcos/codes/code_of_ordinances.

SANDAG (San Diego Association of Governments). 2021. *Series 14 Regional Growth Forecast*. Adopted 2021. Accessed May 31, 2022.

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