



Draft

Sunrise Specific Plan Environmental Impact Report

State Clearinghouse No. 2019049004

PREPARED FOR

City of San Marcos

1 Civic Center Drive

San Marcos, CA 92069

Contact: Susan Vandrew Rodriguez

PREPARED BY

DUDEK

605 Third Street • Encinitas, CA 92024 • Contact: Brian Grover, AICP

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1 SUMMARY

1.1 PROJECT SUMMARY

The applicant is proposing to develop the 192-unit multi-family residential Sunrise Specific Plan project (proposed project) on a 14.4-acre site located at the southeastern limits of the City of San Marcos (City). The proposed project would include approximately 6.2 acres of open space (which includes, but is not limited to, 2.7 acres of active recreational areas and 1 acre of private open space), circulation improvements, and a public services and facilities plan. Homes would range from two to three stories, resulting in a gross density of approximately 13.3 dwelling units per acre. Access would be provided from E. Barham Drive and Meyers Avenue.

The boundaries of the project site currently encompass portions of two jurisdictions: the northern parcel of the project site is located within the City, while the southern portion is located within the County of San Diego (County). The site is also adjacent to the City of Escondido. However, the entirety of the project site is located within the City's Sphere of Influence. The proposed project includes actions to annex the site into the City, for which subsequent approval actions by the San Diego Local Agency Formation Commission (LAFCO) would be required.

The project applicant is requesting the following discretionary approvals from the City and other responsible agencies to allow for development of the proposed project:

City of San Marcos

- A General Plan Amendment would be required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Semi-Rural Residential (SR-1) (as currently designated by the County of San Diego) and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a General Plan Amendment is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Low Density Residential (LDR) to Specific Plan Area (SPA). This General Plan Amendment would allow the Specific Plan to provide rules and regulations for development of the project site.
- A prezone and rezone would be required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Single Family Residential (RS) (as currently designated by the County of San Diego) to Specific Plan Area (SPA). Additionally, a rezone is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Mobile Home Park (R-MHP) to Specific Plan Area (SPA). This Rezone would allow the Specific Plan to provide rules and regulations for development of the project site.

- A Specific Plan would be required to be reviewed and approved concurrently with the Site Development Plan application. The Specific Plan establishes the development rules and regulations of all land uses within the project site. Upon adoption of the Specific Plan by the City, all development within the project site must conform to the regulations of the Specific Plan.
- A Multi-Family Site Development Plan would be required to ensure the development of multi-family structures and conserves the value of adjacent properties by respecting adjacent design standards and aesthetics.
- A Tentative Map would be required for 192 multi-family residential units, open space, active recreational areas, bio-retention areas, and circulation improvements (see Figures 2-14a and 2-14b).
- A Conditional Use Permit would be required for the potential (temporary) use of a rock crusher on site.
- A Grading Variance would be required to allow manufactured slopes in excess of 20 feet in height without benching within the project area.
- A Grading Plan/Permit would be required for construction of the proposed project.
- A Public Improvement Plan/Permit would be required for construction/implementation of the project's public improvements.

City of San Marcos and San Diego LAFCO

- Annexation of APN 228-312-10-00 from the County of San Diego into the City of San Marcos would be required for the proposed project. The City will consider the annexation and rezone request, after which approval and other related actions for the annexation from the San Diego LAFCO would be required.

San Diego LAFCO and Vallecitos Water District

- Annexation of APN 228-312-10-00 into the Vallecitos Water District for sewer service would be required. Approval and other related action for this annexation from the San Diego LAFCO would be required.

City of Escondido

- An Encroachment Permit(s) would be required by the City of Escondido for Private Driveway "B" and utility improvements on Meyers Avenue and E. Barham Drive.
- An Off-site Grading Plan would be required for Private Driveway "B," to be approved by the City of Escondido.

- A Landscaping Plan would be required for Private Drive “B,” to be approved by the City of Escondido.
- Extra Territorial Service Agreement - Sewer Option #1 would require approval of an “Extra Territorial Service Agreement for Sewer” between the City of Escondido, Vallecitos Water District, and the project applicant.

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 with the exception of transportation impacts will be less than significant. Detailed analyses of significant environmental effects and mitigation are provided in Chapter 3 of this environmental impact report (EIR).

In addition to mitigation measures, regulatory standards for grading, construction, and environmental protection have been incorporated into the project design to reduce adverse environmental effects. These include, but are not limited to, grading design and earthwork specifications, erosion control measures, Best Management Practices (BMPs) for pollutant control during construction, biofiltration basins to handle and treat runoff, and implementation of a fire evacuation plan for future residents.

The mitigation measures listed in Table 1-1 will reduce impacts related to biological resources, cultural resources, noise, tribal cultural resources, and transportation (one intersection) to below a level of significance. As shown in Table 1-1, the remaining impacts to transportation would remain significant and unavoidable.

Table 1-1
Summary of Significant Environmental Impacts

Impact	Mitigation Measures	Level of Significance After Mitigation
<i>Biological Resources</i>		
BIO-1 and BIO-2: Impacts to candidate, sensitive, or special status species	Implementation of MM-BIO-1 through MM-BIO-4 , refer to Section 3.3.6	Less than significant
BIO-1: Impacts to riparian habitat and sensitive natural communities	Implementation of MM-BIO-1 , refer to Section 3.3.6	Less than significant

Table 1-1
Summary of Significant Environmental Impacts

Impact	Mitigation Measures	Level of Significance After Mitigation
<i>Cultural Resources</i>		
CR-1: Impacts to archaeological resources	Implementation of MM-CR-1 through MM-CR-7 , refer to Section 3.4.6	Less than significant
CR-2: Impacts to human remains	Implementation of MM-CR-1 through MM-CR-8 , refer to Section 3.4.6	Less than significant
<i>Noise</i>		
NOI-1 through NOI-3: Generation of noise levels in excess of standards established in the local general plan or noise ordinance during construction	Implementation of MM-NOI-1 through MM-NOI-3 , refer to Section 3.11.6	Less than significant
NOI-4 and NOI-5: Generation of excessive groundborne vibration during construction	Implementation of MM-NOI-4 , refer to Section 3.11.6	Less than significant
<i>Transportation</i>		
TR-1 through TR-3 and TR-7: Direct and cumulative impacts to intersections	Implementation of MM-TR-1 through MM-TR-3 and MM-TR-7 , refer to Section 3.15.6.	Significant and unavoidable (TR-1 through TR-3); Less than significant (TR-7)
TR-4 and TR-5: Direct and cumulative impacts to street segments	Implementation of MM-TR-4 and MM-TR-5 , refer to Section 3.15.6.	Significant and unavoidable
TR-6: Direct and cumulative impacts to freeway ramp meters	Implementation of MM-TR-6 , refer to Section 3.15.6.	Significant and unavoidable
<i>Tribal Cultural Resources</i>		
TCR-1: Impacts to Tribal Cultural Resources	Implementation of MM-CR-1 through MM-CR-8 , refer to Section 3.4.6	Less than significant

1.3 AREAS OF CONTROVERSY

A Notice of Preparation (NOP) was distributed on April 1, 2019, for a 30-day public review and comment period. Additionally, a public information meeting was held on April 10, 2019.

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 10 letters were received. Issues and concerns raised in the NOP comment letters include:

- Transportation: scope of the study area, existing roadway congestion, trip generation and distribution, appropriate and adequate mitigation, means of alternative transportation, project access
- Biological Resources: conversion of sensitive habitat, potential direct and indirect impacts to special-status species, and inclusion of appropriate mitigation

- Hazardous Materials: appropriate study of the historical agricultural use of the site
- Hydrology: consideration of potential flooding and review of Flood Insurance Rate Maps
- Cultural and Tribal Cultural Resources: compliance with Assembly Bill 52 and Senate Bill 18
- Land Use: compatibility with surround land uses/development
- Public Services: potential impact to schools.

These concerns are addressed in Chapters 3 and 4 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 decisions makers for the project include whether or how to mitigate the associated significant effects, including whether to implement a project alternative.

Issues to be resolved that are directly related to the proposed project include the choice among the alternatives and whether or how to mitigate the significant effects. In particular, the decision makers must decide if the significant impacts associated with to biological resources, cultural resources, noise, and transportation (one intersection) have been mitigated to less than significant and whether or not the proposed project’s significant and unavoidable impacts to transportation would be offset by the benefits of the project. Lastly, 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

Three 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 proposed project.

1.5.1 No Project/No Development Alternative

Under the No Project/No Development Alternative, the proposed project would not be implemented and the project site would remain undeveloped. Although the City’s General Plan currently allows for low density residential development within the southern parcel (as well as the County’s General Plan) and light industrial uses within the northern parcel, this alternative assumes that the site would stay in its current, undeveloped condition. This alternative is more fully discussed in Section 4.3.3.

1.5.2 Existing Land Use Designation Alternative (City of San Marcos)

Under the Existing Land Use Designation Alternative (City of San Marcos), the project site would be developed per the City's General Plan. The northern parcel of the project site is designated in the City's General Plan as "Low Density Residential" (LDR), while the southern parcel of the site, located within the City's sphere of influence, is designated as "Light Industrial." This alternative assumes that, like the proposed project, the southern parcel would be annexed into the City. The City's General Plan assigns the density/intensity of the LDR designation as 4.1-8.0 dwelling unit/acre (du/a), with allowed land uses that include single-family and duplex residential development, including detached condominiums, clustered homes, courtyard housing, and mobile home parks. Land uses allowed under the "Light Industrial" designation include light manufacturing, processing, assembly, wholesale, office, and research and development laboratories, limited retail, and business services. Uses must not exceed a maximum floor area ratio (FAR) of 0.60 and must be developed as freestanding or as campus-style industrial development.

As such, assuming the maximum intensity described in the City's General Plan, the Existing Land Use Designation Alternative (City of San Marcos) would involve development of 29 single-family residential units within the 3.68-acre northern portion of the site, as well as 282,269 square feet (of 6.5 acres) of light industrial uses within the southern portion of the site. The Existing Land Use Designation Alternative (City of San Marcos) would require ground-disturbance of the entire site. Due to rocky soil conditions present, it is assumed that blasting and rock crushing activities would also be required for this alternative.

1.5.3 Existing Land Use Designation Alternative (County of San Diego)

As described in Section 2.2, the southern parcel of the project site is located in the County of San Diego's jurisdiction. This parcel is designated "Semi-Rural Residential" (SR-1) in the County's General Plan. Land uses allowed under the Semi-Rural Residential designation include residential units with a maximum density of one unit per 2, 4, or 8 gross acres.

The Existing Land Use Designation Alternative (County of San Diego) assumes that the southern portion of the site will remain under the jurisdiction of the County. Assuming that development would occur at one unit per 2 acres, the southern parcel would be developed with 5 single-family residences. Similar to the Existing Land Use Designation Alternative (City of San Marcos), the northern parcel of the site, located within the City, would be developed with 29 single-family residential units.

1.5.4 Reduced Density Alternative

The Reduced Density Alternative would result in the development of the site similar to that of the proposed project, but with a reduced number of residential dwelling units. This alternative was determined by the number of residential units that would avoid some, but not all, potentially significant transportation impacts. Therefore, the Reduced Density Alternative would include the development of 74 multi-family residential dwelling units, 118 units fewer than the proposed project. Open space,

recreational facilities, and landscaping would be provided throughout the project site. The Reduced Density Alternative would also require ground-disturbance of the majority of the site. Due to rocky soil conditions present, it is assumed that blasting and rock crushing activities would also be required for this alternative. This alternative also assumes annexation into the City of San Marcos. Lastly, it is assumed that access to the site would still be provided via an off-site driveway connecting to Meyers Avenue within the City of Escondido.

1.5.5 Environmentally Superior Alternative

Table 1-2 provides a qualitative comparison of the impacts for each alternative compared to the proposed 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 proposed project, the Existing Land Use Designation Alternative (County of San Diego) is the environmentally superior alternative because it would reduce various impacts and avoid some, but not all, significant and unavoidable impacts to transportation. Although impacts would be slightly reduced under the Existing Land Use Designation Alternative (County of San Diego) compared to the proposed project, mitigation measures would still be required to mitigate impacts to biological resources, cultural resources, noise, tribal cultural resources, and transportation (one intersection). Further, by developing single-family units, this alternative would not provide a multi-family housing opportunity through a range of unit types, sizes, affordable price points, and number of different bedroom counts, including 2, 3, and 4-bedroom units, to accommodate a full spectrum of family demographics. Also, because this alternative would still be located partially within the County of San Diego, it would not implement a maintenance program unlike the project, which will ensure all common areas are maintained to standards set forth in the City's General Plan.

Table 1-2
Comparison of Impacts of Proposed Project and Alternatives

Environmental Topic	Proposed Project	No Project/No Development Alternative	Existing Land Use Designation Alternative (City of San Marcos)	Existing Land Use Designation Alternative (County of San Diego)	Reduced Density Alternative
Aesthetics	LTS	No Impact (Reduced)	LTS (Same)	LTS (Same)	LTS (Same)

Table 1-2
Comparison of Impacts of Proposed Project and Alternatives

Environmental Topic	Proposed Project	No Project/No Development Alternative	Existing Land Use Designation Alternative (City of San Marcos)	Existing Land Use Designation Alternative (County of San Diego)	Reduced Density Alternative
Air Quality	LTS	No Impact (Reduced)	LTS (Greater)	LTS (Reduced)	LTS (Reduced)
Biological Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Geology and Soils	LTS	No Impact (Reduced)	LTS (Same)	LTS (Same)	LTS (Same)
Greenhouse Gas Emissions	LTS	No Impact (Reduced)	LTS (Greater)	LTS (Reduced)	LTS (Reduced)
Hazards and Hazardous Materials	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Same)
Hydrology and Water Quality	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Reduced)
Land Use	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Same)	LTS (Same)
Noise	LTSM	No Impact (Reduced)	LTSM (Same)	LTS (Reduced)	LTS (Same)
Population and Housing	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Public Services	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Recreation	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Transportation	LTSM and SU	LTS (Reduced)	SU (Greater)	SU (Reduced)	SU (Reduced)
Tribal Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Utilities and Service Systems	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Reduced)

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 section describes the Sunrise Specific Plan project (proposed project), and includes a statement of the project objectives, a general description of the proposed project's technical, economic, and environmental characteristics, and a summary of the discretionary actions required to approve the proposed project. The proposed project would establish a Specific Plan to provide guidelines and standards for the implementation of future development of the proposed project. The Specific Plan is included as Appendix B to this environmental impact report (EIR).

2.1 PROJECT OBJECTIVES

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

1. Provide a multi-family housing opportunity through a range of unit types, sizes, prices, and number of different bedroom counts, including 2, 3, and 4-bedroom units, to accommodate a full spectrum of family demographics;
2. Contribute to the growing housing needs of the region by providing livable development in proximity to SR-78 and the Nordahl Road Sprinter Station;
3. Create a development which accommodates adequate recreational open space, including common parks, playgrounds, recreational facilities, and private open space that are convenient and accessible within the project site;
4. Provide development standards to ensure the aesthetically attractive appearance of all construction within the project site through integration of land form design, architectural design, unified landscape theme, and recreation areas;
5. Design a safe and efficient circulation system that provides convenient connections to adjoining regional transportation routes, and provides for alternative modes of travel including bicycle and pedestrian options;
6. Implement a maintenance program which will ensure all common areas are maintained to standards set forth in the City's General Plan; and
7. Provide opportunities to contribute to public infrastructure such as roadways and utilities.

2.2 PROJECT DESCRIPTION

The approximately 14.4-acre project site is located at the southeastern limits of the City of San Marcos (City) and is comprised of Assessor's Parcel Numbers (APNs) 228-312-09-00 and 228-312-10-00. The project site is currently within portions of two jurisdictions: the City (APN 228-312-09-00, approximately 3.6 acres) and the County of San Diego (APN 228-312-10-00, approximately 10.8 acres), however the entirety of the project resides within the City's General Plan Sphere of Influence. Additionally, the project site is located adjacent to the City of Escondido, with an additional access driveway located within this adjacent jurisdiction. The project site boundary and location are shown on Figures 2-1 through 2-2. Additionally, the project is considered an infill site within a transit priority area per Public Resources Code Section 21099.

The proposed project proposes a development consisting of an Annexation(s), General Plan Amendment, Rezone, Multi-Family Site Development Plan, Specific Plan, Tentative Map, and Conditional Use Permit. If approved, these entitlements would allow the development of a planned residential community within the project site. The Specific Plan is a comprehensive planning document that establishes development guidelines for the project site. The document will serve as the primary land use, policy, and regulatory document for the project by providing a development planning review process, as authorized by California Government Code §65450, in conjunction with the San Marcos Municipal Code Zoning Ordinance, Chapter 20.535. Under the Specific Plan, the only permitted uses within the proposed project site are multi-family residential and open space.

The proposed project would allow for the development of approximately 192 multi-family residential dwelling units, resulting in a gross density of approximately 13.3 dwelling units per acre. The proposed project also includes open space, active recreational areas, bio-retention areas, circulation improvements, and a public services and facilities plan, as described in greater detail below.

2.2.1 Discretionary Actions Required of the City

As mentioned above, the requested project entitlements/discretionary actions, and permits by the City include an Annexation, General Plan Amendment, Rezone, Multi-Family Site Development Plan, Specific Plan, Tentative Map, Conditional Use Permit, Grading Variance, and Construction Permits as detailed below:

- **General Plan Amendment** – A General Plan Amendment would be required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Semi-Rural Residential (SR-1) (as currently designated by the County of San Diego) and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a General Plan Amendment is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Low Density Residential (LDR) to

Specific Plan Area (SPA). This General Plan Amendment would allow the Specific Plan to provide rules and regulations for development of the project site.

- Prezone and Rezone - A prezone and rezone would be required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Single Family Residential (RS) (as currently designated by the County of San Diego) to Specific Plan Area (SPA). Additionally, a rezone is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Mobile Home Park (R-MHP) to Specific Plan Area (SPA). This Rezone would allow the Specific Plan to provide rules and regulations for development of the project site.
- Specific Plan - A Specific Plan would be required to be reviewed and approved concurrently with the Site Development Plan application. The Specific Plan establishes the development rules and regulations of all land uses within the project site. Upon adoption of the Specific Plan by the City, all development within the project site must conform to the regulations of the Specific Plan.
- Annexation of APN 228-312-10-00 from the County of San Diego into the City of San Marcos would be required for the proposed project.
- A Multi-Family Site Development Plan would be required to ensure the development of multi-family structures and conserves the value of adjacent properties by respecting adjacent design standards and aesthetics.
- A Tentative Map would be required for 192 multi-family residential units, open space, active recreational areas, bio-retention areas, and circulation improvements (see Figures 2-14a and 2-14b).
- A Conditional Use Permit would be required for the potential (temporary) use of a rock crusher on site.
- A Grading Variance would be required to allow manufactured slopes in excess of 20 feet in height without benching within the project area.
- A Grading Plan/Permit would be required for construction of the proposed project.
- A Public Improvement Plan/Permit would be required for construction/implementation of the project's public improvements.

2.2.2 Project Characteristics

2.2.2.1 Land Uses

The proposed land uses within the project site are summarized in Table 2-1 and the conceptual site plan is shown on Figure 2-3. As shown in Table 2-1, the proposed project would include approximately 192 multi-family residential dwelling units; approximately 4.45 acres for circulation and access; and 6.16 acres of open space comprised of common areas (approximately 4.88 acres), private open space (approximately 0.99 acres), and bio-retention areas (approximately 0.29 acres).

Table 2-1
Proposed Land Uses

Proposed Land Use	Total Gross Area (acres)	Dwelling Units	Density (dwelling units/acre)
Multi-Family Residential			
Two-Story Townhome	-	100	-
Three-Story Townhome	-	92	-
<i>Residential Subtotal</i>	<i>3.78</i>	<i>192</i>	<i>13.3¹</i>
Open Space			
Common Open Space (grades of 10% or greater)	2.12	-	-
Common Open Space (grades of 10% or less)	2.76		
Private Open Space	0.99	-	-
Bio-retention areas	0.29	-	-
<i>Open Space Subtotal</i>	<i>6.16</i>	<i>-</i>	<i>-</i>
Driveways and Circulation	4.5	-	-
Total	14.4	192	13.3

¹ Density calculation includes the total site acreage.

Residential

The proposed project includes approximately 192 multi-family residential units on approximately 3.8 acres of the project site. The proposed residential units would be comprised of 100 two-story townhomes and 92 three-story townhomes.

Architectural Design

Both residential unit types include multiple floor plans within several different building elevations. The proposed project includes a maximum of seven floor plans and six building elevations with several alternate elevations proposed. Unit types and building types may be considered interchangeable by the area where that specific type is plotted and final configurations would be approved by the City. Conceptual building elevations are shown on Figures 2-4a through 2-4f. All buildings within the project site would not exceed 40 feet or three stories in height; all two-story buildings would be approximately 30 feet in height.

Proposed project buildings would utilize materials such as wood, stone, stucco, and brick, while metal accents and trims are acceptable. Exterior color finishes would include deep to light earth and natural tones, including, but not limited to, white, brown, beige, tan, grey, and cream.

Open Space and Landscaping

Open Space

The project includes approximately 6.2 acres of open space comprised of four categories: common open space area with grades 10% or greater, common open space area with grades less than 10%, private open space, and bio-retention areas. The proposed open space areas are also shown on Figures 2-3 and 2-5.

Common open space with grades of 10% or greater. This category is, by definition, according to the San Marcos Municipal Code Zoning Ordinance Title 20, open space which cannot be counted as usable open space. This category includes approximately 2.12 acres of open space features such as landscaping, open turf areas, and bio-retention areas (although for purposes of this description, bio-retention areas are classified separately).

Common open space area with grades of 10% or less. These areas include usable open space areas, which encourage passive recreation as well as active recreational open space areas such as pool area, recreational facilities, tot lots, and barbeque stations.

As a recreational component of multi-family development within the City, one tot lot is required for every 25 dwelling units with a minimum of 400 square feet of play area for each tot lot. With a proposed 192 units, approximately 3,100 square feet of play area would be required (192 units divided by 25 multiplied by 400 square feet), distributed among eight tot lots (192 units divided by 25 rounded up). The proposed project includes a deviation from the City's Municipal Code requirement by providing four tot lot spaces dispersed throughout the Specific Plan area totaling approximately 4,978 square feet, which is approximately 1,878 square feet more than the Municipal Code requires.

In addition to the common-area gathering spaces, the proposed project includes an approximately 10,283 square foot pool deck recreation area, which includes a 1,875 square foot pool, 130 square foot spa, pool building (includes restrooms, storage area, and pool equipment), barbeque counter, 500 square foot outdoor dining area, 300 square foot bocce ball court/horseshoe court, an approximately 1,624 square foot multi-age play structure, and a 983 square foot tot lot (described above). Common Area Gathering Space #1 is approximately 1,075 square feet and includes a multi-age play structure and artificial turf play area. Common Area Gathering Space #2 is approximately 1,175 square feet and includes a tot lot, playhouses, and artificial turf area. Common Area Gathering Space #3 is approximately 1,745 square feet and includes a play structure and artificial turf area. Finally, an overlook area (approximately 557 square feet) includes a barbeque counter, overlook space, and artificial turf area. The proposed project includes an approximate total of 14,835 square feet of recreational facilities. These common area gathering spaces and the pool deck recreation area are shown on Figure 2-5. In total, the project would provide approximately 120,239 square feet (2.76 acres) of common open space with grades less than 10%.

Private Open Space. Private open space is required within the project site for each multi-family dwelling unit. For units with usable ground floor living area, approximately 250 square feet of private open space is required. For units with no usable ground floor living space, approximately 50 square feet of private open space is required. The proposed project includes an approximate total of 40,264 square feet of private open space within the project site, which is greater than the 39,200 square feet required by the City's Municipal Code.

Bio-retention areas. These areas are passive open space areas which are used to direct stormwater during rain events to control for flooding and to treat stormwater before it is discharged from the site.

Conceptual Landscaping

The conceptual landscape plan is shown on Figure 2-5. All plants and trees included in the proposed project's plant material guidelines have been chosen for their appropriateness to the architectural design, local climate tolerance, soil conditions, and level of maintenance intensity. The selected plants are consistent with Assembly Bill 1881 requirements and the City of San Marcos Water Efficient Landscape Ordinance (WELO), Municipal Code, Title 20, and the Specific Plan. No non-native invasive plant species shall be used. All street trees planted within 10 feet of public improvements would include root barriers. The plant materials guidelines should be considered subject to change, with final approval determined by the City. Should changes be necessary, the newly selected plants and trees should be similar in tolerance and water usage to the conceptual list provided.

Irrigation within the project site would utilize the following:

- Installation of automatic controllers which feature evapotranspiration or moisture sensing data, with manual and automatic shut-off,
- Low volume heads, subsurface irrigation system designed to prevent runoff, low head drainage, and overspray,
- Grouping of plants by hydrozones and irrigation hydrozones separately.

Walls, Fencing, Entry Monuments, and Lighting

Walls and Fences

Walls and fences would create partitions between private open space, screen the development from roadways, reduce noise from roadways, and enhance the overall site design. Fence and wall types include tubular steel, block, living hedge, wood, or vinyl privacy fencing. Masonry retaining walls are proposed to be located along the perimeter of the project site, as necessary. Preliminary locations for walls and fencing are shown on Figure 2-6.

Entry Monuments

The proposed project may incorporate a monument located at the Meyers entrance as a feature of the landscape and architectural design, with an additional entry monument potentially located at the Barham entrance. Monuments would incorporate materials compatible with the surrounding natural landscape features and the proposed landscape design. A variety of materials may be used to design monuments, including, but not limited to, tile, stucco, stone veneer plaster, metal-work, draught tolerant shrubs and trees, or other drought tolerant vegetation. Monuments may include accent lighting. Entry monuments would be limited to a maximum of six feet in height and setback a minimum of five feet from any property line. While precise details for entry monuments would be provided with construction plans, a conceptual monument design is shown on Figure 2-6.

Lighting

Lighting within the project site would be used to accent landscaping and buildings and to provide safety. All lighting within the proposed project would be energy efficient, architecturally appropriate fixtures designed to minimize glare, conflict, and light pollution, while providing illumination levels that create a safe environment for both vehicles and pedestrians. All lighting would comply with the City's Municipal Code Section 20.300.080, Light and Glare Standards, and any other applicable sections. All areas of the project site will be appropriately lit to coincide with their relevant use and activities. Street lights would contain full cut-off fixtures and house-side shields would be used to reduce light trespass and prevent light pollution. Conceptual lighting fixtures and locations are shown on Figure 2-7.

2.2.2.2 Circulation and Access

The proposed circulation plan facilitates an interconnected mobility system for bicycles, pedestrians, and vehicles. The proposed circulation plan provides residents with safe movement within the project site, secondary emergency access, connections to existing roadways within the vicinity of the project site, access to regional arterial and highway networks, and access to Sprinter light rail/Breeze bus transit services. Private internal driveways and alleys have been designed to be a minimum of 24 feet in width from curb to curb. The proposed project includes three internal driveways and 19 private alleys to access multi-family buildings as well as connections to E. Barham Drive and Meyers Avenue, which provide access to the project site. The conceptual circulation plan is shown on Figure 2-8.

Streets and Circulation

Driveways and Alleys

Internal private driveways and alleys proposed within the project site are neighborhood streets designed to accommodate the level of traffic generated by the proposed project. Internal roadways are designed to provide safe movement of bicycle, pedestrian, and vehicle traffic through the project site and to provide attractive frontages to residential lots. A typical cross section for the proposed private driveways and alleys is shown on Figure 2-9.

Private Driveway “A” – This private internal driveway connects to E. Barham Drive north of the project site. The driveway is located on the northern portion of the project site and merges with private driveway “C” which loops through the center of the project site and connects back to private driveway “A” at the northeast portion of the site. Private driveway “A” features two 12-foot minimum travel lanes with an intermittent sidewalk.

Private Driveway “B” – Private driveway “B” is a private driveway which connects the project site to Meyers Avenue to the east. This driveway is located off-site within the City of Escondido and would serve as additional project access. This private driveway features two 12-foot minimum travel lanes and varies in width.

Private driveway “C” – This private driveway is an approximately 28-foot wide two-lane road (and approximately 44 feet wide where street parking is provided) which loops through the project site. Private driveway “C” would include a 14-foot wide street parking area to one side of the road.

Private Alleys – The proposed project would include 24-foot wide alleys for residents to access their dwelling units. Alleys would feature two 12-foot wide travel lanes.

Access

Access to the project site occurs from Meyers Avenue and E. Barham Drive, providing ingress/egress points, which would be gated. Access at Meyers Avenue would allow for full left/right in/out turn movements for ingress/egress. Access at E. Barham Drive would permit only right-in/right-out turn movements. Vehicles travelling westbound on E. Barham Drive would be prohibited to turn left into the project site at this driveway.

The California Fire Code, along with the San Marcos Fire Department, administers the rules and regulations on fire access design. At a minimum, the proposed project must present a design which affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, §503.1 through §503.4 of the California Fire Code), an adequate number of emergency rated entrances to the community (Appendix D, §D106 of the California Fire Code), and entryway gate

access for first responders (Chapter 5 of the California Fire Code, §503.6). Two points of entry have been identified for the project site and are designed to meet the design requirements codified in the California Fire Code. Both project site entrances meet the qualifications for emergency access to the Specific Plan area. The proposed private driveways have been designed to accommodate fire and emergency apparatus.

Alternative Transportation

The North County Transit District (NCTD) provides public transportation within the City and the County of San Diego for Coaster rail service, Sprinter light rail service, and Breeze bus service. Sprinter service operates between Escondido and Oceanside, with connections to Interstate 5 and the Coaster rail service operating out of the City of Oceanside. The NCTD operates the Nordahl Road Sprinter and Breeze transit station located approximately 0.3 miles from the proposed project's E. Barham Drive entrance and approximately 0.4 miles from its Meyers Avenue entrance.

Parking

Based on the proposed total dwelling units, the proposed project would be required by the City to provide 448 parking spaces. The proposed project includes 384 garage spaces and 80 open parking spaces for a total of 464 parking spaces, exceeding this requirement. Four parking spaces would meet the requirements of the Americans with Disabilities Act. Each residential dwelling unit would provide, at minimum, a two-car garage.

2.2.2.3 Conceptual Grading and Construction Phasing

For the purposes of analysis, it was assumed that construction of the proposed project would last approximately 21 months, comprising of the following approximate phases:

- Site preparation – 10 days
- Grading – 106 days
- Building construction – 327 days
- Paving (including utility installation) – 88 days
- Architectural coating – 135 days

It is expected that the project would require approximately 78,800 cubic yards of cut and fill to be balanced within the site, requiring no soil import/export truck trips. However, for the purposes of providing a conservative analysis, this EIR assumes that approximately 10,000 cubic yards of export of soil would be required. Additionally, due to existing vegetation on site, it is expected that truck trips would be required during site clearing of vegetation. For the purposes of analysis, it was assumed that approximately 1,000 cubic yards of vegetation and soil from site clearing would be

exported. It is anticipated that off-site improvements would occur concurrently throughout the construction on the project site. Construction would require the use of typical construction equipment, including dozers, tractors, excavators, graders, pavers, rollers, and air compressors. In addition, due to underlying geology, construction would require blasting and the use of a rock crusher for materials processing. A conceptual grading plan is shown on Figures 2-10a and 2-10b, and the potential location of the rock crusher is shown on Figure 2-10c. Additional detail regarding construction assumptions can be found in Section 3.2, Air Quality.

A grading variance would be required for several slopes within the project site which exceed 20 feet in height. Approval of a grading variance allows for grading of two main pads separated approximately on a north-south centerline of the project site. Without the grading variance, the site would require narrower development areas, separated by an access driveway through the middle of the site. The variance also allows for a more efficient grading plan by requiring less landform modification and more cohesive development. Refer to Figure 2-11 for the locations of these slopes. It should be noted that this proposed grading variance has been previously granted on similar projects with similar soils and topography in the area and would comply with Section 17.32.090 of the Municipal Code, which requires approval of the variance by the City through the entitlement process.

2.2.2.4 Public Utilities and Services

Water Facilities

Water service for potable residential use and fire service for the proposed project would be provided by the Rincon Del Diablo Municipal Water District (Rincon). The project site is located entirely within the service area boundaries of Rincon. Water lines within the project site would range from 4- to 8- inches. Both water lines would circulate beneath the main driveways throughout the project site, and would loop through the proposed alleys, as shown on Figure 2-12. The proposed on-site private water lines would connect to an existing 10-inch public water main within E. Barham Drive and an existing 8-inch public water main within Meyers Avenue. Refer to Section 3.17, Utilities and Service Systems, for additional information.

Sewer Facilities

Wastewater service for the proposed project would be provided by either the City of Escondido or the Vallecitos Water District (VWD). The proposed project presents two options for sewer service to be provided to the project site, which are discussed below. Regardless of which option for sewer service is ultimately selected, annexation into VWD would be required. Sewer Option #1 is the preferred option for sewer provision to the project site. When compared to Sewer Option #1, Sewer Option #2 would:

- Require a larger area of disturbance within the public right-of-way disrupting traffic movement and surround land uses
- Require a depth of excavation within E. Barham Drive that could reach approximately 20 feet below the ground surface

- Likely encounter hard rock, requiring blasting to remove
- Result in more costly and difficult maintenance and access during ongoing operations

Sewer Option #2 is under consideration because the northern parcel of the project site is within the VWD service boundary.

City of Escondido

Wastewater service for the proposed project would be provided by the City of Escondido under Sewer Option #1. Under Sewer Option #1: on-site sewer would be transported via a proposed 8-inch private sewer main that would connect to an existing 8-inch public sewer main within Meyers Avenue, as shown on Figure 2-12 for a total of 440 feet off site within the proposed project driveway.

The project site is located outside and adjacent to the City of Escondido's sewer service boundary. However, the project driveway connecting the project site to Meyers Avenue would be located within the City of Escondido's sewer service boundary. Because a portion of the project site is located within the VWD sewer service boundary (discussed below), Sewer Option #1 would require annexation into VWD and an "Extra Territorial Service Agreement for Sewer" between the City of Escondido, VWD, and the project applicant to allow for the City of Escondido to provide sewer service to the project site. Sewer Option #1 is the preferred option for provision of sewer to the project site.

Vallecitos Water District

Wastewater service for the proposed project would be provide by VWD under Sewer Option #2. The southern parcel of the project site is not located within VWD's sewer service boundary and would require annexation. Under Sewer Option #2: an additional sewer connection option would require off-site improvements within E. Barham Drive. Refer to Section 3.17, Utilities and Service Systems, for additional information. Sewer Option #2 would require 965 feet of new sewer line to be installed off-site in E. Barham Drive.

Site Drainage

Storm drain systems and connections would be designed to accommodate the proposed future development. Two biofiltration basins are proposed at the northeast and southeast corners of the project site, as shown on Figure 2-12. The northeast biofiltration basin is approximately 7,606 square feet, while the southeast biofiltration basin is approximately 5,000 square feet. Stormwater flows would be conveyed to the biofiltration systems through storm drains, where water would be treated prior to being discharged. Refer to Section 3.9, Hydrology and Water Quality, for additional information.

Electrical and Gas

Electricity and natural gas would be provided by San Diego Gas & Electric (SDG&E). The proposed project would connect to the existing adjacent electrical line and natural gas pipeline within Meyers Avenue. For on-site electricity, the project would include eight at grade transformers that would be located and constructed in accordance with SDG&E electrical standards with respect to clearance standards and setbacks from proposed residential structures.

The project would also include undergrounding of the existing 69-kilovolt (kV) electrical transmission line (specifically, transmission line TL 684, Escondido to San Marcos), which traverses the project site in a north-south direction. Undergrounding the transmission line would result in the removal of electrical poles Z815154, Z114375, Z114374, and Z36342 and replaced with two steel cable poles. The undergrounded 69kV line, which would include SDG&E fiber would be located within the project's proposed internal roadways. Construction of this component would occur during the project's grading phase. Grading would be staged such that the area for the new undergrounded line is brought to final grade for the installation and energizing of the new undergrounded line prior to the removal of the existing overhead line. A new easement would be granted to SDG&E to cover the new location of the 69 kV line and facilities on the property. Undergrounding of the existing 69kV transmission line is included in the overall construction assumptions in the analysis of this EIR.

Fire Protection

The project site is located within the San Marcos Fire Protection District (SMFPD) boundary. The City of San Marcos Fire Department (SMFD) would provide fire protection and emergency medical services to the project. The SMFD 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, which includes the project site; and the community of Lake San Marcos. The SMFD operates two Fire Stations (Stations 1 and 3) that would respond to an incident at the proposed project site.

Police Protection

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

Schools

The project site is located within the San Marcos Unified School District (SMUSD). SMUSD is 49 square miles in size and encompasses most of the City of San Marcos and portions of the cities of Vista, Escondido and Carlsbad, as well as unincorporated areas of the County of San Diego between these cities.

Schools that would serve the project site include:

- Knob Hill Elementary School, located at 1825 Knob Hill Rd. San Marcos, CA 92069
- Woodland Park Middle School, located at 1270 Rock Springs Rd. San Marcos, CA 92069
- Mission Hills High School, located at 1 Mission Hills Ct. San Marcos, CA 92069

Parks

There are 16 major community parks and 18 mini parks are located throughout the City. The City residents in the project area are currently served by several nearby parks. The closest park to the project site is Jack's Pond Park, located approximately 0.60 mile west of the site. Jack's Pond Park consists of picnic areas, trails, tot play lot, restrooms, Native Center, and turf area. Other nearby parks include Knob Hill Park, located 0.73 mile northeast of the site, and Montiel Park, located approximately 0.85 mile northeast.

Libraries

The City is served by the San Diego County Library, San Marcos Branch located at 2 Civic Center Drive, approximately 1.8 miles northwest of the project site.

2.2.2.5 Off-Site Improvements

The proposed project would require several off-site improvements, as shown on Figures 2-13a through 2-13e. These improvements include the utility and roadway network improvements discussed below. The construction of these facilities is incorporated into the analysis assumptions throughout this EIR.

Storm Drainage Facilities

Storm drain improvements are proposed within private driveway "B" extending east from the project site to Meyers Avenue, before turning north and extending approximately 1,000 feet from the project driveway entrance to the Barham Drive / Meyers Avenue intersection. Additional storm drain improvements are proposed from private driveway "A" extending east approximately 350 feet connecting to the previously described storm drain improvement in Meyers Avenue. This off-site improvement would occur entirely within the previously disturbed adjacent parcel and the Meyers Avenue existing right-of-way.

Private Roadway Construction

As described in Section 2.2.2.4 and shown on Figure 2-13a, private driveway “B” is a private driveway which would connect the project site to Meyers Avenue to the east. This driveway is located off-site within the City of Escondido.

Roadway Network Construction

The proposed project would include various off-site roadway network improvements. Refer also to EIR Section 3.15, Transportation, for additional discussion regarding the off-site roadway improvements required by mitigation.

Barham Drive. The project would implement the following improvements on Barham Drive, as shown on Figures 2-13b through 2-13d:

- Widening of Barham Drive along the south side of the right-of-way between the proposed project driveway and Meyers Avenue, as required by mitigation to reduce potential impacts caused by project traffic. This would also include construction of a cement curb/gutter and sidewalk to provide access to the Nordahl Road Sprinter Station.
- Widening of Barham Drive along the north side of the right-of-way from Bennett Court to approximately 300 feet west of the Barham Drive / Mission Road intersection. Only a portion of this improvement is required by mitigation; refer to Section 3.15 for additional discussion. This improvement would allow for the creation of a new turn pocket for vehicles travelling westbound on Barham Drive turning southbound onto Meyers Avenue. This improvement would relocate any utilities as necessary.
- Installation of a traffic signal at the Barham Drive / Meyers Avenue intersection, as required by mitigation. Accessibility ramps would also be provided at the southwest corner of this intersection.
- Modification of the traffic signal at the Barham Drive / Mission Road intersection, as required by mitigation.
- Undergrounding of utility poles at the proposed project driveway.

Sewer and Water Improvements

Sewer Option #1, discussed above, would require construction of a proposed 8-inch private sewer main within the private driveway “B”, located off site within the City of Escondido. Sewer Option #2, discussed above, would require off-site improvements within E. Barham Drive. This option would require the construction of a new 8-inch sewer line travelling west from the E. Barham Drive project entrance for approximately 965 feet to connect to an existing 8-inch public sewer line (Figure 2-13e). Construction would occur entirely within the E. Barham Drive right-of-way.

2.2.2.6 Economic Characteristics

As discussed in Chapter 6 of the Sunrise Specific Plan (Appendix B), the proposed project would include a Public Facilities and Financing Plan to ensure improvements are implemented in a timely and successful manner. The financing mechanisms for each improvement will be timed with any development of the project site, the City's conditions of approval, and site plan/design review approval. Refer to Chapter 6 of Appendix B for additional details regarding the methods of financing of construction and operation of public improvements and services.

2.3 ENVIRONMENTAL SETTING

2.3.1 Existing Land Uses and Setting

On-site

The project site is currently vacant, with areas disturbed from previous agricultural uses. The site is not currently accessible by a public roadway; however an existing 9-foot wide unimproved road access easement provides site access via E. Barham Drive.

Six vegetation communities/land covers were mapped within the project site, including wild oats grassland, California buckwheat scrub (including disturbed), black sage scrub, white sage scrub, disturbed habitat, and ornamental. The majority of the project site is composed of wild oats grassland, which is dominated by non-native, naturalized plant species. However, the southern section of the site contains relatively uninvaded black sage scrub.

Surroundings

The project site is immediately bordered by low density residential manufactured homes to the north and west. To the east and south of the project site is a light industrial business park with a variety of businesses located within the City of Escondido. Further east/northeast are additional light industrial businesses and development. An existing vacant lot is located within the City of Escondido (zoned as Planned Development – Industrial) adjacent to the proposed project site access driveways, east/northeast of the project site. The proposed driveway providing project site access from Meyers Avenue is located off-site within the City of Escondido. To the southwest, within the County of San Diego are semi-rural residential lands with associated agricultural and equestrian uses. E. Barham Drive and State Route 78 (SR-78) are located just north of the project site, and Meyers Avenue is to the east. The NCTD operates the Nordahl Road Sprinter and Breeze transit station located approximately 0.3 miles from the proposed project's E. Barham Drive entrance and approximately 0.4 miles from its Meyers Avenue entrance.

2.3.2 Existing Land Use and Zoning Designations

Existing General Plan Land Use Designation

The southern parcel of the project site (APN 228-312-10-00) is designated as Semi-Rural Residential (SR-1) by the County of San Diego General Plan. This parcel is also within the City's General Plan Sphere of Influence and is designated as Light Industrial (LI). The northern parcel of the project site (APN 228-312-09-00) is designated as Low Density Residential (LDR) by the City's General Plan.

Existing Zoning Designation

The County of San Diego has zoned the southern parcel of the project site (APN 228-312-10-00) as Single Family Residential (RS). The City's existing zoning for the northern parcel of the project site (APN 228-312-09-00) is Mobile Home Park (R-MHP).

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 Chapters 3 and 5 of this EIR.

2.3.3.1 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. The average summertime high temperature in the region is approximately 74°F, with highs approaching 76°F in August on average. The average wintertime low temperature is approximately 49°F, although record lows have approached 48°F in January. Average precipitation in the local area is approximately 10 inches per year, with the bulk of precipitation falling between December and March.

2.3.3.2 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 (SDAPCD). 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 (O₃) and a state nonattainment area for particulate matter less than or equal to 10 microns (coarse particulate matter (PM₁₀)), particulate matter less than or equal to 2.5 microns (fine particulate matter (PM_{2.5})), and O₃.

2.3.3.3 Soils

The U.S. Department of Agriculture Soil Survey mapped most of the project site as underlain by the following soil types: Fallbrook sandy loam (FaB), 2% to 5% slopes; Vista coarse sandy loam (VsC), 5% to 9% slopes; Vista coarse sandy loam (VsD), 9% to 15% slopes; Vista coarse sandy loam (VsD2), 9% to 15% slopes, eroded; and Visalia sandy loam (VaB), 2% to 5% slopes (USDA 2018).

2.3.3.4 Terrain and Topography

The project site is characterized by undeveloped terrain and has no existing impervious areas. Under existing conditions, drainage flows to the southeast corner of the site to the northeast corner from two drainage basins, into an existing concrete ditch located on the southeastern corner of the site, and ultimately flows into existing inlets within Corporate Drive, Meyers Avenue, and Barham Drive. The ground surface at the site generally descends from the southwest to the northeast and ranges in elevation in approximately 700 to 815 feet above mean sea level (amsl).

2.3.3.5 Watersheds and Hydrology

The project site is located within the Carlsbad Hydrologic Unit. 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 project site is located within the San Marcos Hydrologic Subarea. 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).

2.3.3.6 Regional Biology

The following two jurisdictions are included in the resource-planning context of the site: the City of San Marcos and the County of San Diego. Because the project site falls within the City's sphere of influence, it is anticipated to be reviewed in accordance with the current regulatory framework in place with the City. As such, the County is not anticipated to provide regulatory oversight or review. The City of San Marcos Subarea Habitat Conservation Plan/Natural Community Conservation Plan (NCCP) 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 General Plan policy to comply with the conservation policies identified in the MHCP through use of the Draft San Marcos Subarea Plan as an implementation tool.

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 proposed project, (2) possible ways to minimize any significant environmental impacts, and (3) feasible alternatives to the proposed project that would reduce or avoid significant impacts associated with the proposed 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 proposed 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 proposed project because it will perform the entitlement processing of the proposed 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 proposed project, the City will use the information in this EIR to consider potential impacts to the physical environment associated with the proposed 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 City of Escondido and Vallecitos Water District (refer to Section 2.4.5 below). Subsequent to certification of the Final EIR, agencies with permitting authority over all or portions of the proposed project will use the Final EIR as the basis for their evaluation of environmental effects related to the proposed project that will culminate with the approval or denial of applicable permits.

2.4.1 Scope of the EIR

For the proposed 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 scope and the location of the proposed project, as well as preparation of an Initial Study in accordance with CEQA Guidelines, Section 15063 (included as Appendix A to this EIR).

This EIR evaluates all subject areas listed in Appendix G to the CEQA Guidelines, with the exception of those subject areas determined not to have a potentially significant impact on the environment, as determined during preparation of the Initial Study (refer to Chapter 5 of this EIR). Chapter 3 of this EIR evaluates in detail, the following subject areas: aesthetics, air quality, biological resources, cultural resources, energy consumption, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, cumulative impacts, and growth-inducing impacts.

As a “Project EIR,” this EIR is “focused primarily on the changes in the environment that would result from the development project” (CEQA Guidelines Section 15161). In addition, as a Project EIR, this EIR examines all phases of the proposed 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 proposed project are identified to evaluate whether there are ways to minimize or avoid significant impacts associated with the proposed project.

2.4.2 Notice of Preparation and Scoping

CEQA establishes mechanisms to inform the public and decision makers about the nature of the proposed project and the extent and types of impacts that the proposed project and alternatives to the proposed project would have on the environment should the proposed project or alternatives be implemented. Pursuant to Section 15082 of the CEQA Guidelines, the City circulated a Notice of Preparation (NOP) dated April 1, 2019, 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. 2019049004) to this EIR.

The NOP is intended to encourage interagency and public communication regarding the proposed action 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 April 10, 2019 at San Marcos City Hall (1 Civic Center Drive) to gather additional public input. The 30-day public scoping period ended on May 2, 2019.

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, traffic, public services, hazardous materials, alternative transportation, flooding, and public safety. Public scoping comments regarding the proposed 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, CA 92069

County Library
2 Civic Center Drive
San Marcos, CA 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 Susan Vandrew Rodriguez, Associate Planner, or emailed at svandrew@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.

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).

When deciding whether to approve the proposed 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 proposed 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 proposed 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 proposed 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 proposed project will use the Final EIR's evaluation of the proposed project's environmental effects in considering whether to approve or deny applicable permits.

2.4.5 Matrix of Project Approvals and Permits

Consistent with the City's General Plan and San Marcos Municipal Code Zoning Ordinance Title 20, the proposed project requires certain entitlements be submitted, reviewed, and approved by the City. The requested entitlements include an Annexation, General Plan Amendment, Rezone, Multi-Family Site Development Plan, Specific Plan, Tentative Map, Conditional Use Permit and Grading Variance. These entitlements, listed and described in Table 2-2, would govern the development of the project site.

The City will use this EIR and associated documentation in its decision to approve or deny the required discretionary permits. 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 a site-specific Stormwater Pollution Prevention Plan and approvals from neighboring jurisdictions. Additional permits and approvals from responsible and other agencies are also listed in Table 2-2.

Table 2-2
Required Actions and Approvals

Agency	Required Action/Approval
City of San Marcos (Lead Agency)	Initiation of proceedings to annex APN 228-312-10-00 from the County of San Diego into the City of San Marcos
	General Plan Amendment – A General Plan Amendment is required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Semi-Rural Residential (SR-1) (as currently designated by the County of San Diego) and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a General Plan Amendment is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Low Density Residential (LDR) to Specific Plan Area (SPA). This General Plan Amendment would allow the Specific Plan to provide rules and regulations for development of the project site.
	Prezone and Rezone - A prezone and rezone is required to re-designate the southern parcel of the project site (APN 228-312-10-00) from Single Family Residential (RS) (as currently designated by the County of San Diego) to Specific Plan Area (SPA). Additionally, a rezone is required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Mobile Home

Table 2-2
Required Actions and Approvals

Agency	Required Action/Approval
	Park (R-MHP) to Specific Plan Area (SPA). This Rezone would allow the Specific Plan to provide rules and regulations for development of the project site.
	Specific Plan - A Specific Plan is required to be reviewed and approved concurrently with the Site Development Plan application. The Specific Plan establishes the development rules and regulations of all land uses within the project site. Upon adoption of the Specific Plan by the City, all development within the project site must conform to the regulations of the Specific Plan.
	Multi-Family Site Development Plan
	Tentative Map, as shown on Figures 2-14a and 2-14b
	Conditional Use Permit
	Grading Variance
	Grading Plan/Permit
	Public Improvement Plan/Permit
	Landscape Plan/Permit
San Diego Local Agency Formation Commission	Approval and other related actions for the annexation of APN 228-312-10-00 into the City from unincorporated County of San Diego lands.
	Approval and other related action for the annexation of APN 228-312-10-00 into the Vallecitos Water District.
City of Escondido	Encroachment Permit – An Encroachment Permit(s) would be required for Private Driveway “B” and utility improvements on Meyers Avenue and E. Barham Drive.
	Utility Improvement Plan for water, sewer, water quality, drainage, dry utilities, gates, signage, lighting, and road repairs.
	Grading Plan for Private Driveway “B”
	Landscaping Plan for Private Driveway “B”
	Extra Territorial Service Agreement - Sewer Option #1 would require approval of an “Extra Territorial Service Agreement for Sewer” between the City of Escondido, Vallecitos Water District, and the project applicant.
Vallecitos Water District	Initiation of proceedings to annex APN 228-312-10-00 into the Vallecitos Water District.
	Extra Territorial Service Agreement - Sewer Option #1 would require approval of an “Extra Territorial Service Agreement for Sewer” between the City of Escondido, Vallecitos Water District, and the project applicant.
San Diego Regional Water Quality Control Board	National Pollutant Discharge Elimination System Construction General Permit (State Water Resources Control Board Order 2009-09-DWQ)

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, Land use); Regional Air Quality Strategy (Section 3.2, Air Quality); San Diego Air Pollution Control District policies (Section 3.2, Air Quality); City's Climate Action Plan (Section 3.7, Greenhouse Gas Emissions); Regional Water Quality Control Board permits (Section 3.9, Hydrology and Water Quality); the Multiple Habitat Conservation Program (Section 3.3, Biological Resources); Airport Land Use Compatibility Plans (Sections 3.8, Hazards and Hazardous Materials, 3.10, Land Use, and 3.11, Noise); and various other applicable regional and local plans and policies.

As described previously, the proposed project would require a General Plan Amendment, Rezone, and annexation to allow for the proposed development. As discussed in Section 3.10, Land Use, of the EIR, the proposed project was found to be consistent with the applicable goals of the various elements and overall vision of the General Plan.

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 §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 tends to be broad and area-wide.

An inventory of past, present, and reasonably foreseeable future projects within the vicinity of the project site is presented in Table 2-3 and shown on Figure 2-15.

Table 2-3
Cumulative Projects

No.	Project	Location	Description
<i>City of San Marcos</i>			
1	Corner @ 2 Oaks	Southwest corner of San Marcos Boulevard and N. Twin Oaks Valley Road	Approximately 13,500 s.f. of commercial and 118 townhomes
2	University District Block K	Campus Way	68 multi-family condominiums
3	Kaiser Permanente Master Plan	400 Craven Road	Approximately 70,700 s.f. of medical/hospital use
4	Main Square	Southeast corner of San Marcos Boulevard and McMahr Road	486 apartments and approximately 44,000 s.f. of commercial
5	San Elijo Hills	San Elijo Road	124 residential dwelling units and approximately 11,700 s.f. of commercial
6	Pacific Commercial	Northeast corner of Grand Avenue and Pacific Street	Approximately 29,200 s.f. of commercial
7	Brookfield Residential	S. Twin Oaks Valley Road	346 SFR and 220 MFR dwelling units
8	San Marcos Highlands	North end of N. Las Posas Road	189 SFR dwelling units
9	The Marc	1045 Armorlite Drive	416 MFR dwelling units and approximately 15,000 s.f. of commercial
10	El Dorado II Specific Plan	Southwest corner of Richmar Avenue and Pleasant Way	72 MFR dwelling units and 2,000 s.f. of commercial

**Table 2-3
Cumulative Projects**

No.	Project	Location	Description
11	San Elijo Hills Town Center	San Elijo Road and Elfin Forest Road	12 MFR dwelling units and approximately 22,900 s.f. of commercial
12	JR Legacy II	Montiel Road	128 room hotel
13	Meadowlark Canyon	San Marcos Boulevard	33 SFR dwelling units
14	Mariposa II	Richmar Avenue and Los Olivos Drive	60 MFR dwelling units
15	Murai	N. Las Posas Road	89 SFR dwelling units
16	Copper Hills Specific Plan	San Elijo Road	Approximately 139,000 s.f. commercial/light industrial and 351 MFR dwelling units
17	Pacifica San Marcos	S. Rancho Santa Fe Road and Creek Street	31 MFR dwelling units and 4,375 s.f. of commercial
18	Fenton South	Future Discovery Street	220 SFR dwelling units
19	Windy Pointe Phase II	Windy Pointe Drive	15,000 s.f. of office and 18,600 s.f. of industrial
20	Fitzpatrick	Fitzpatrick Road	78 MFR and 2 SFR dwelling units
21	MacDonald Group	San Marcos Boulevard	82 MFR dwelling units and 5,000 s.f. of commercial
22	Mission 24	Mission Road at Avenida Chapala	24 MFR dwelling units
23	Mission 316 West	Mission Road at Woodward Street	67 MFR dwelling units
24	Lanikai	Mission Road at Woodward Street	115 senior dwelling units
25	Mesa Rim Climbing Center	285 Industrial Street	28,000 s.f. of commercial
26	Artis Senior Housing	San Elijo Road at Paseo Plomo	64 bed senior living complex
27	Lomas San Marcos	1601 San Elijo Boulevard	Approximately 180,500 s.f. of commercial
28	Montiel Commercial	2355 and 2357 Montiel Road	Approximately 33,000 s.f. of office use
29	California Allstars	East side of Twin oaks Valley Road	Approximately 28,000 square foot industrial use
30	Budhi Hill Buddhist Center	Poinsettia Avenue near Linda Vista Drive	Approximately 44,000 s.f. of institutional uses
31	Mercy Hill and Marian Center	Borden Road	Approximately 22,800 s.f. of institutional uses
32	West Health Pace	1706 Descanso Avenue	Approximately 20,150 s.f. of senior center uses
33	Karl Strauss Brewery	Las Posas Road and Los Vallecitos Boulevard	Approximately 10,500 s.f. of commercial, restaurant, and brewery
34	C3 Church	1760 Descanso Avenue	825 seat church facility within approximately 75,000 s.f.
35	Sandy Lane Estates	Sandy Lane	9-lot subdivision

**Table 2-3
Cumulative Projects**

No.	Project	Location	Description
<i>County of San Diego</i>			
36	T&R Mini Storage	25338 Centre City Parkway	4-building storage facility: 2,388-s.f. manager building and three 2-story storage buildings (46,706-s.f., 52,470-s.f., and 57,754-s.f. in size).
37	Montiel Heights/Montiel Road Townhomes	1310 Montiel Road	70 condominiums; 1 existing SFR to be removed. Located on a 5.01-acre site.
38	Harmony Grove Village	North and south of Harmony Grove Road, and east and west of Country Club Drive	Up to 742 dwelling units, commercial services, park and community gathering locales, and equestrian facilities on a 468-acre site.
39	Harmony Grove Village South	Country Club Drive/Harmony Grove Road	453 dwelling units and 5,000-s.f. of commercial/civic uses, open space, and parks on a 111-acre site.
40	Valiano Development	South of Hill Valley Drive and west of Country Club Drive	334 SFRs, parks and open space on a 210-acre lot.
<i>City of Escondido</i>			
41	Citracado Parkway Extension	West Valley Parkway to Andreasen Drive, Escondido	Improvements and extension of Citracado Parkway from West Valley Parkway to Andreasen Drive and annexation of 30 acres from the County to the City and an up-zone of two of the parcels.
42	Oak Creek	Intersection of Hamilton Lane/Miller Avenue, Escondido	65 SFRs and 4 open space lots; 1 existing SFR to be removed. Located on a 41.4-acre site.
43	Escondido Country Club – The Villages	1800 W. Country Club Lane	380 single-family dwelling unit development project on a 109-acre site.
44	Center City Shopping Center	425 and 427 West Mission Avenue	Commercial development consisting of three buildings (6,374-s.f., 5,404-s.f., and 4,308-s.f.) on a 2.24-acre site.
45	Escondido Innovation Center (Exeter Industrial Park & Victory Industrial Park)	1925 and 2005 Harmony Grove Road	Industrial development project consisting of 212,088-s.f. on an 11.04-acre site.
46	Gateway Grand Residential	700 W Grand Ave	126 multifamily residential units, a leasing office, parking areas, and open space on a 2.6-acre site.
47	Latitude II Condominiums	Centre City Parkway and W Washington Ave	112-unit residential development, offices, recreational facilities, and open space on a 3.44-acre site.
48	Nutmeg Residences	East of I-15 on N Nutmeg St	137-unit residential development and open space on an 8.52-acre site.

**Table 2-3
Cumulative Projects**

No.	Project	Location	Description
49	Zenner Development and Annexation	Irregularly shaped site: Vista Avenue to the south, North Ash Street along a portion of the eastern boundary and bisected by Lehner Avenue.	43 SFR lots and 3 open space lots on a 13.97-acre site.
50	Escondido Research and Technology Center (ERTC) Medical Office	Citracado Parkway	74,400 s.f. medical office building
51	Stone Brewery Hotel	Citracado Parkway, opposite of existing Stone Brewing	44-room boutique hotel
52	Pacific Harmony Grove	South of Harmony Grove Road, east of the Harmony Grove Road / Kauana Loa Drive intersection	Corporate headquarters and warehouse/distribution center for Stone Brewing

Notes:

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
s.f. = square feet
SP = Specific Plan
SPA = Specific Plan Amendment
SFR = single-family residence
TM = Tentative Map
TPM = Tentative Parcel Map
VTM = Vesting Tentative Map

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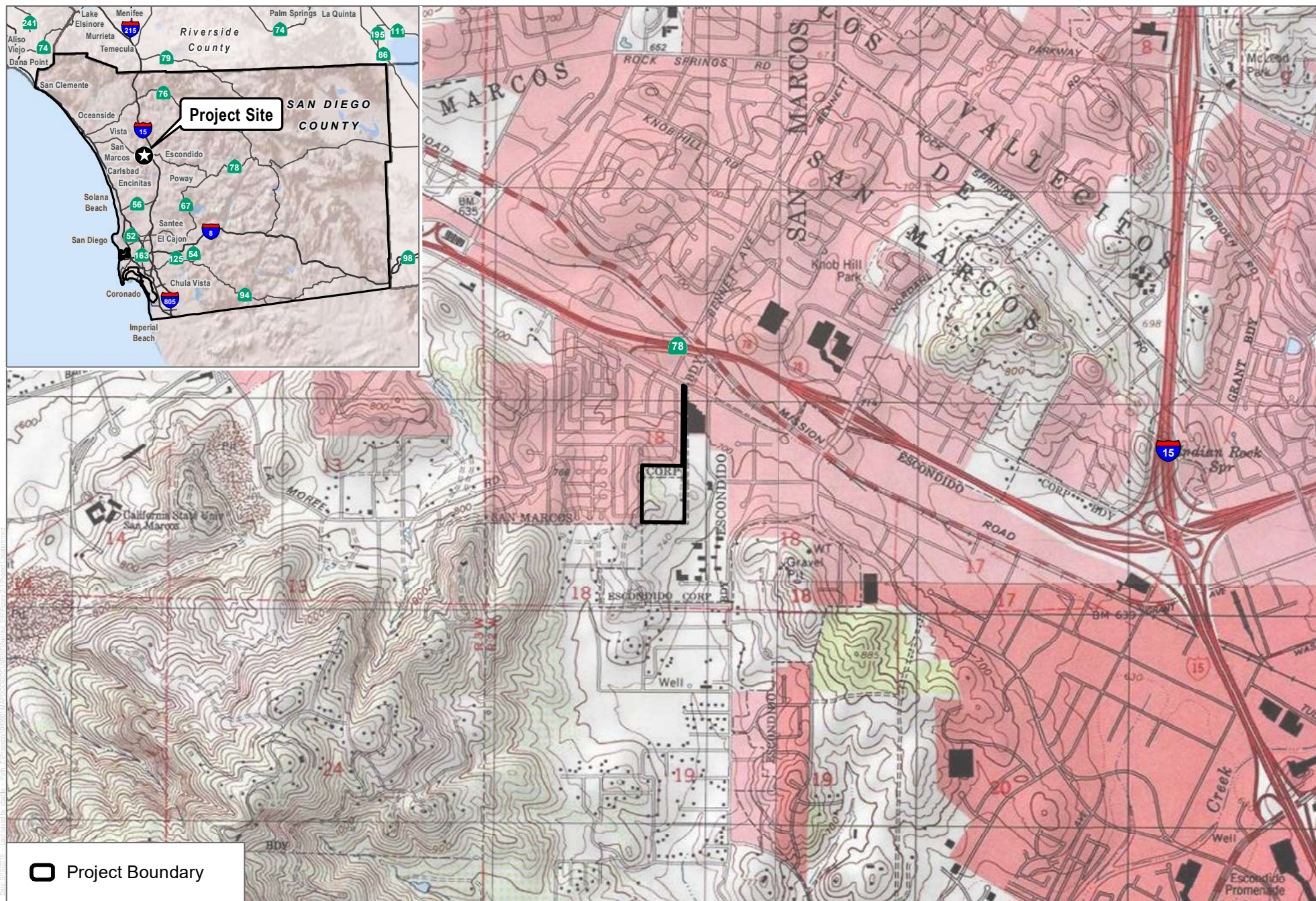


FIGURE 2-1
Project Location

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SOURCE: ESRI 2018

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0 500 1,000 Feet

FIGURE 2-2

Project Site and Surroundings

Sunrise Specific Plan Environmental Impact Report

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RIGHT



LEFT



REAR



FRONT



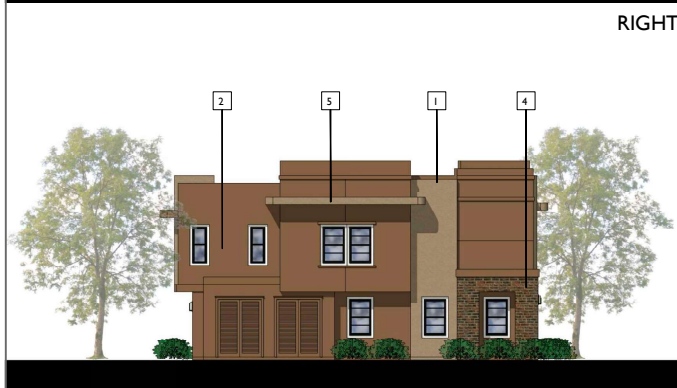
MATERIAL SCHEDULE

- | | |
|---|---|
| 1 | ROOF - BUILT UP PARAPET |
| 2 | WALL - STUCCO |
| 3 | WALL - STONE VENEER |
| 4 | TRIM - 2X STUCCO |
| 5 | DECORATIVE METAL AWNING |
| 6 | DECORATIVE TRELLIS |
| 7 | EXTERIOR LIGHTING |
| 8 | SECTIONAL GARAGE DOOR
(OPTIONAL WINDOWS) |

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REAR



FRONT



MATERIAL SCHEDULE

- 1 ROOF - BUILT UP PARAPET
- 2 WALL - STUCCO
- 3 WALL - BRICK VENEER
- 4 TRIM - 2X STUCCO
- 5 DECORATIVE STUCCO AWNING
- 6 EXTERIOR LIGHTING
- 7 SECTIONAL GARAGE DOOR (OPTIONAL WINDOWS)

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- 1 ROOF - BUILT UP PARAPET
- 2 WALL - STUCCO
- 3 WALL - STONE VENEER
- 4 TRIM - 2X STUCCO
- 5 DECORATIVE METAL AWNING
- 6 DECORATIVE TRELLIS
- 7 EXTERIOR LIGHTING
- 8 SECTIONAL GARAGE DOOR
(OPTIONAL WINDOWS)

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SOURCE: Summa Architecture 2018

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FIGURE 2-4d
Conceptual Building Elevations
 Sunrise Specific Plan Environmental Impact Report

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RIGHT



REAR



LEFT



FRONT



MATERIAL SCHEDULE

- 1 ROOF - BUILT UP PARAPET
- 2 WALL - STUCCO
- 3 WALL - STONE VENEER
- 4 TRIM - 2X STUCCO
- 5 DECORATIVE METAL AWNING
- 6 DECORATIVE TRELLIS
- 7 EXTERIOR LIGHTING
- 8 SECTIONAL GARAGE DOOR
(OPTIONAL WINDOWS)

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- 1 ROOF - BUILT UP PARAPET
- 2 WALL - STUCCO
- 3 WALL - BRICK VENEER
- 4 TRIM - 2X STUCCO
- 5 DECORATIVE STUCCO AWNING
- 6 EXTERIOR LIGHTING
- 7 SECTIONAL GARAGE DOOR
(OPTIONAL WINDOWS)

SOURCE: Summa Architecture 2018

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FIGURE 2-4f

Conceptual Building Elevations

Sunrise Specific Plan Environmental Impact Report

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SOURCE: Summa Architecture 2018

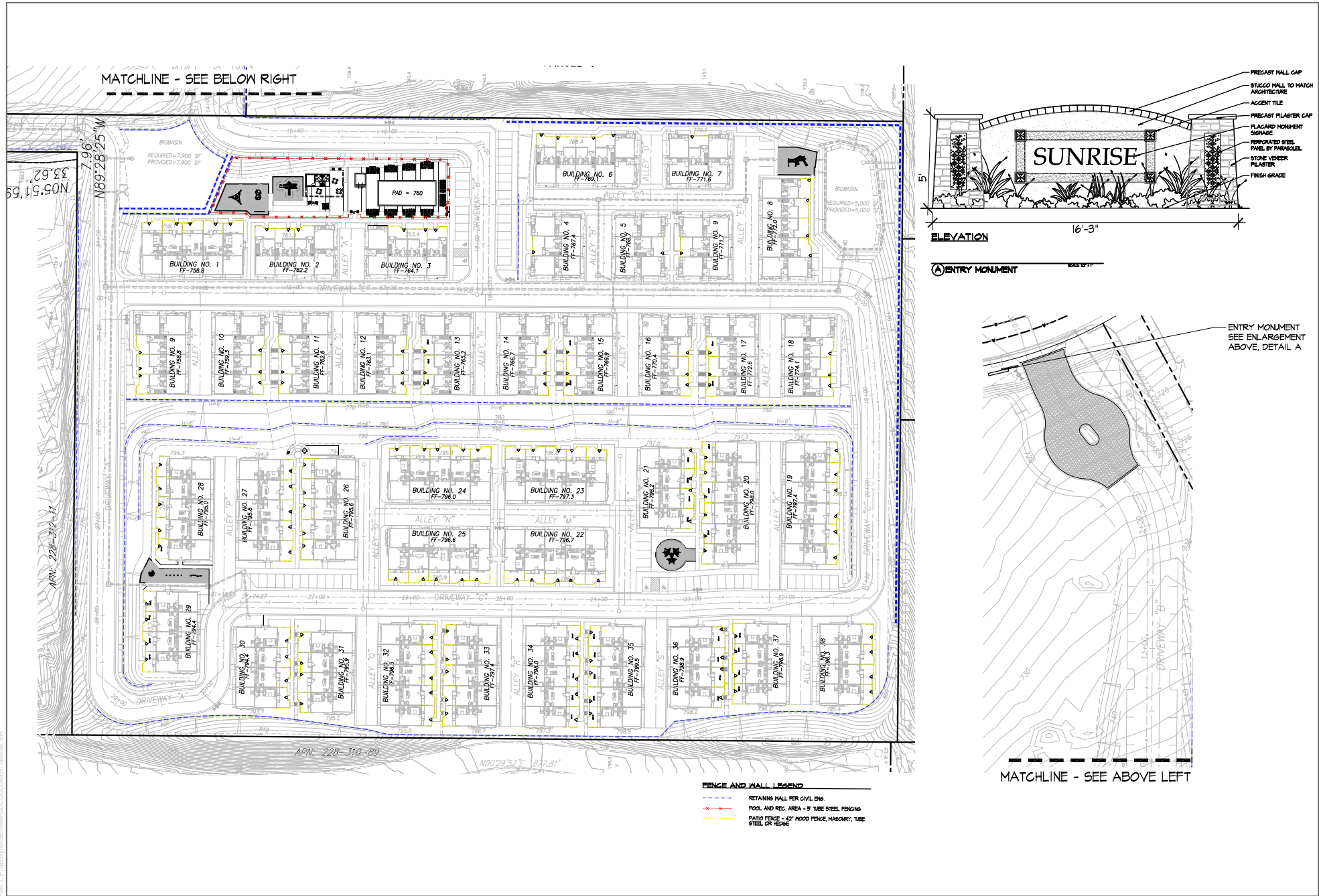
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FIGURE 2-5

Conceptual Landscape Plan

Sunrise Specific Plan Environmental Impact Report

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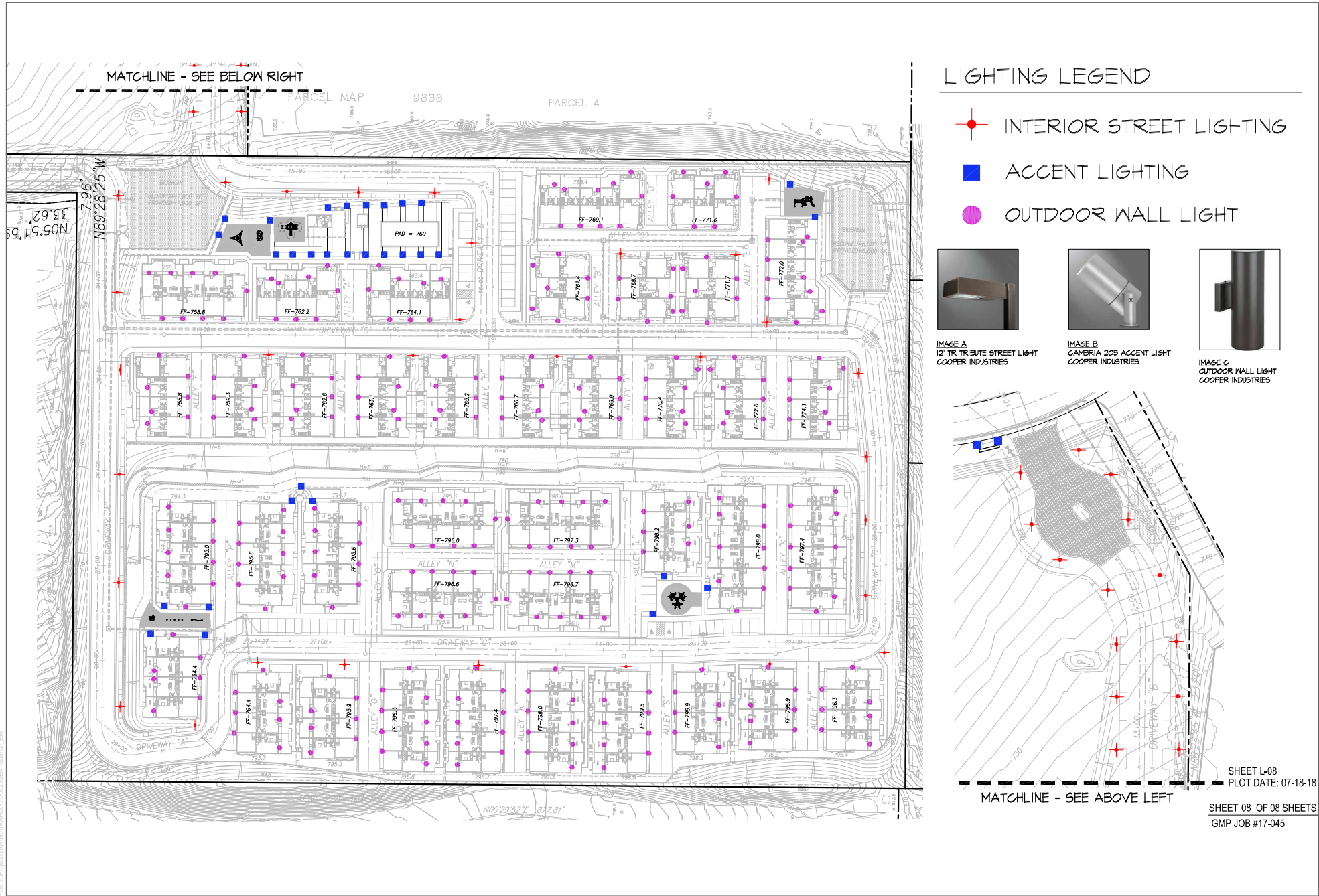


SOURCE: Summa Architecture 2018

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FIGURE 2-6
Wall and Fence Plan
 Sunrise Specific Plan Environmental Impact Report

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SOURCE: Summa Architecture 2018

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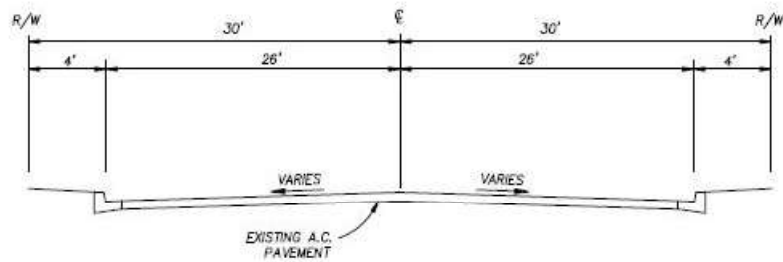
FIGURE 2-7
Conceptual Lighting Plan
Sunrise Specific Plan Environmental Impact Report

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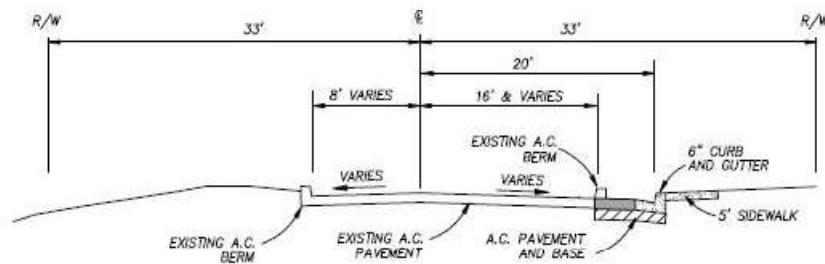
SOURCE: Summa Architecture 2018

FIGURE 2-8
Conceptual Circulation Plan
e Specific Plan Environmental Impact Report

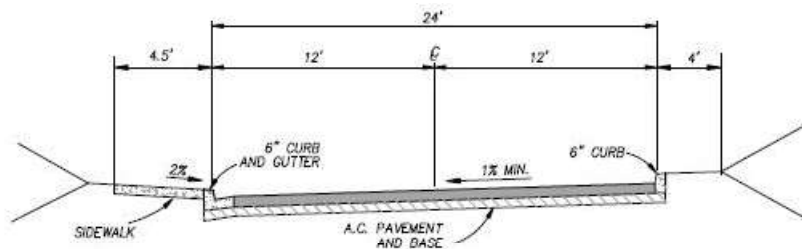
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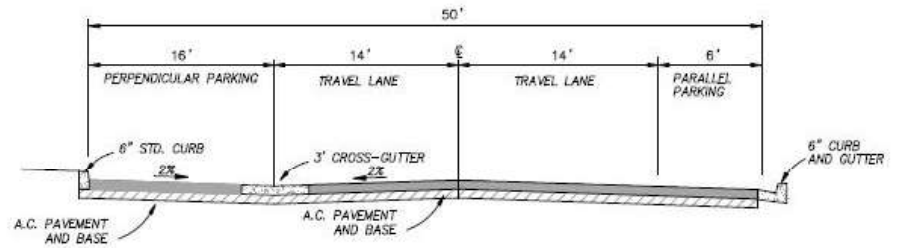
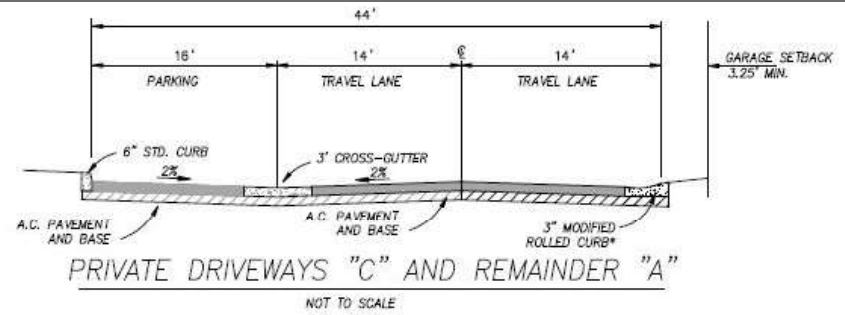
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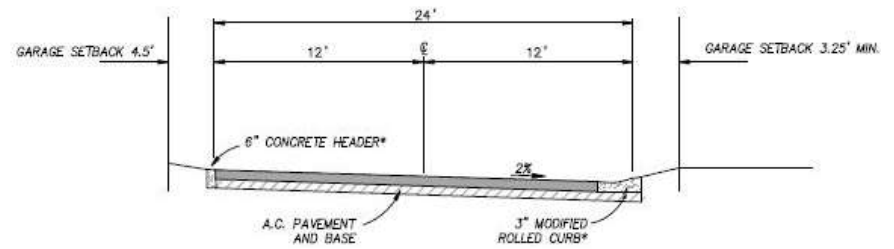
BARHAM DRIVE
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PRIVATE DRIVEWAY "A" (BARHAM TO DRIVEWAY "C")
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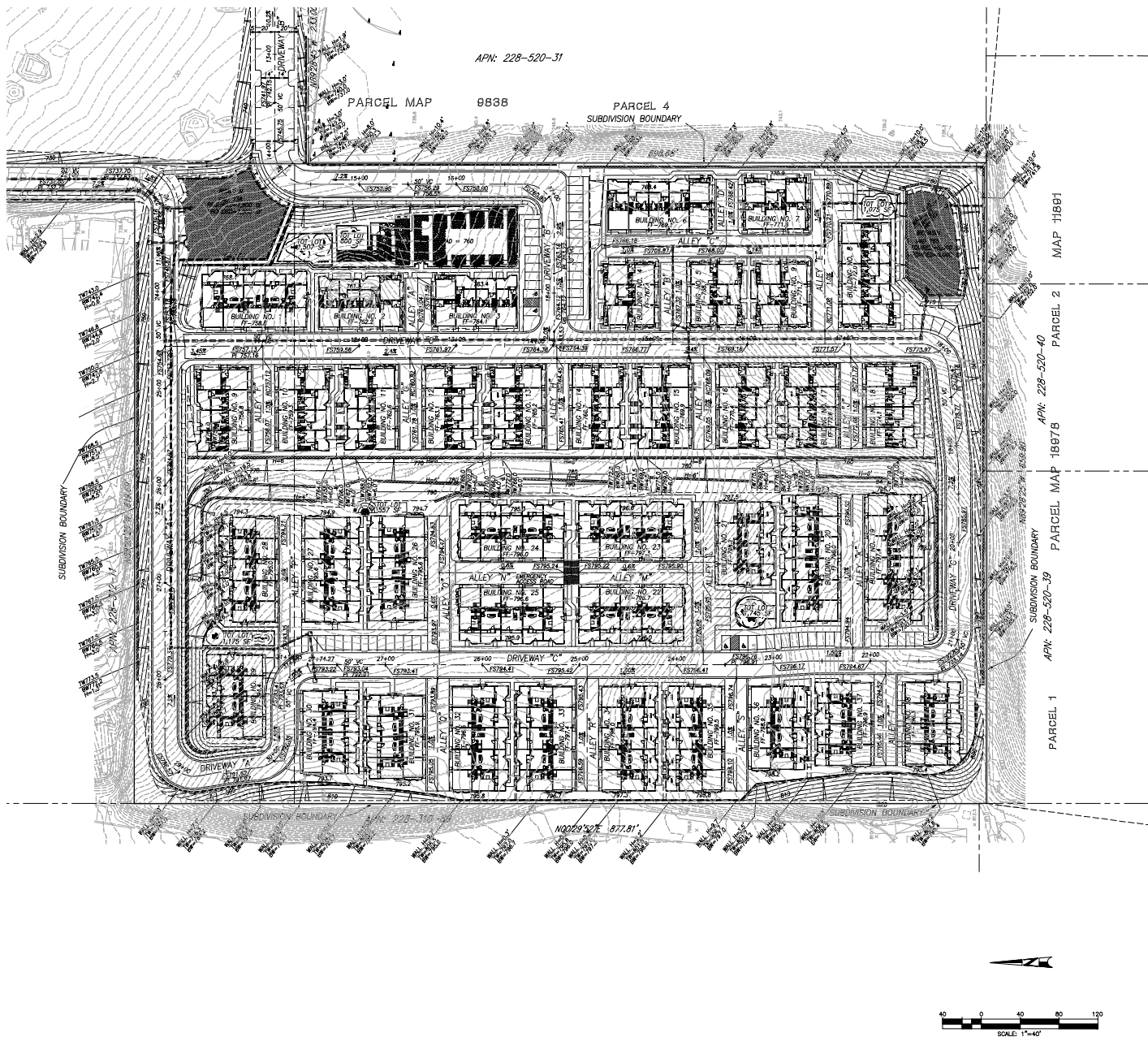


PRIVATE DRIVEWAY "B"
NOT TO SCALE



PRIVATE ALLEYS
*6" CURB AND GUTTER PROVIDED WHERE NO BUILDINGS OCCUR
NOT TO SCALE

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SOURCE: Summa Architecture 2018

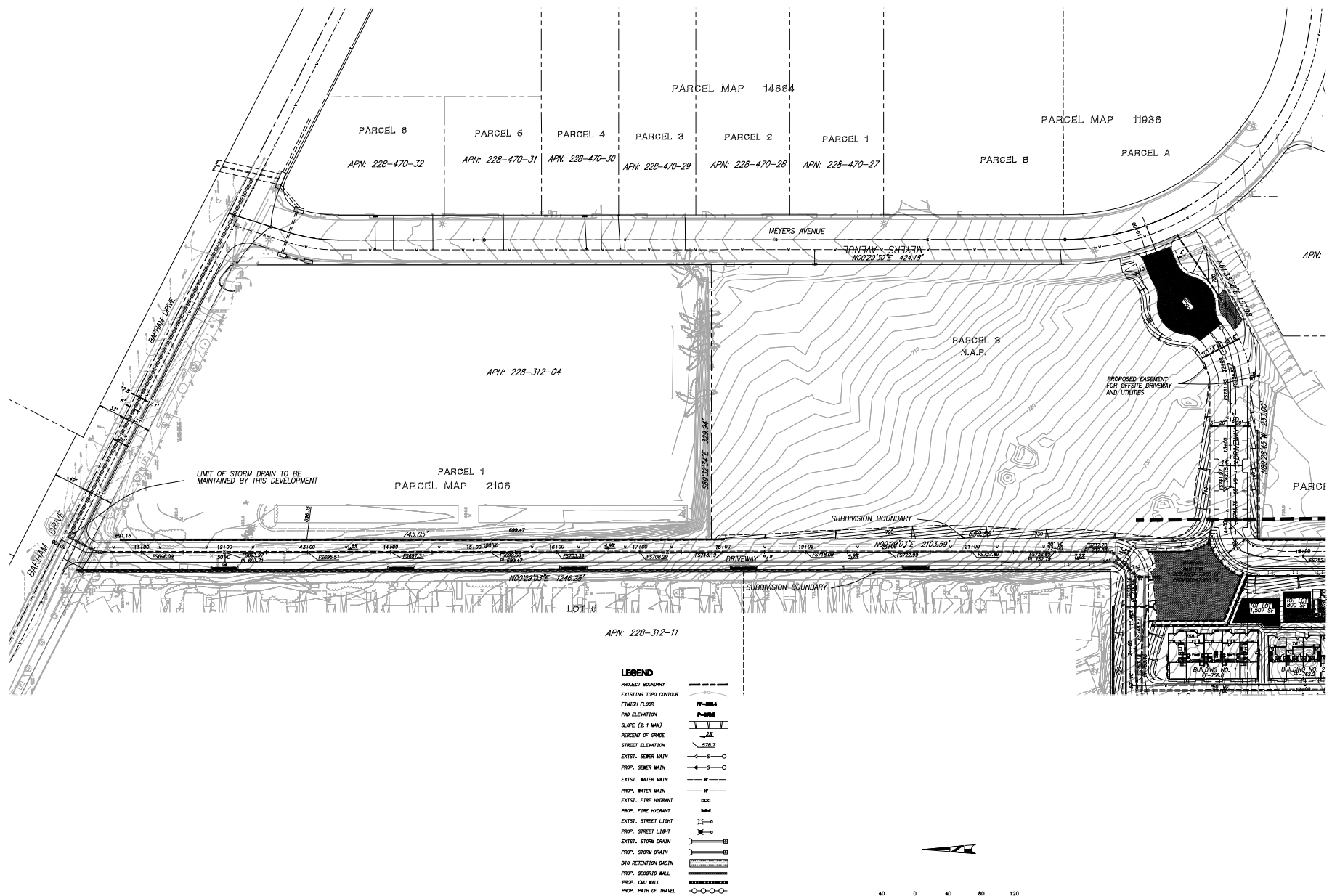
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FIGURE 2-10a

Conceptual Grading Plan

Sunrise Specific Plan Environmental Impact Report

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SOURCE: Summa Architecture 2018

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FIGURE 2-10b
Conceptual Grading Plan
 Sunrise Specific Plan Environmental Impact Report

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SOURCE: Lundstrom Engineering and Surveying 2018

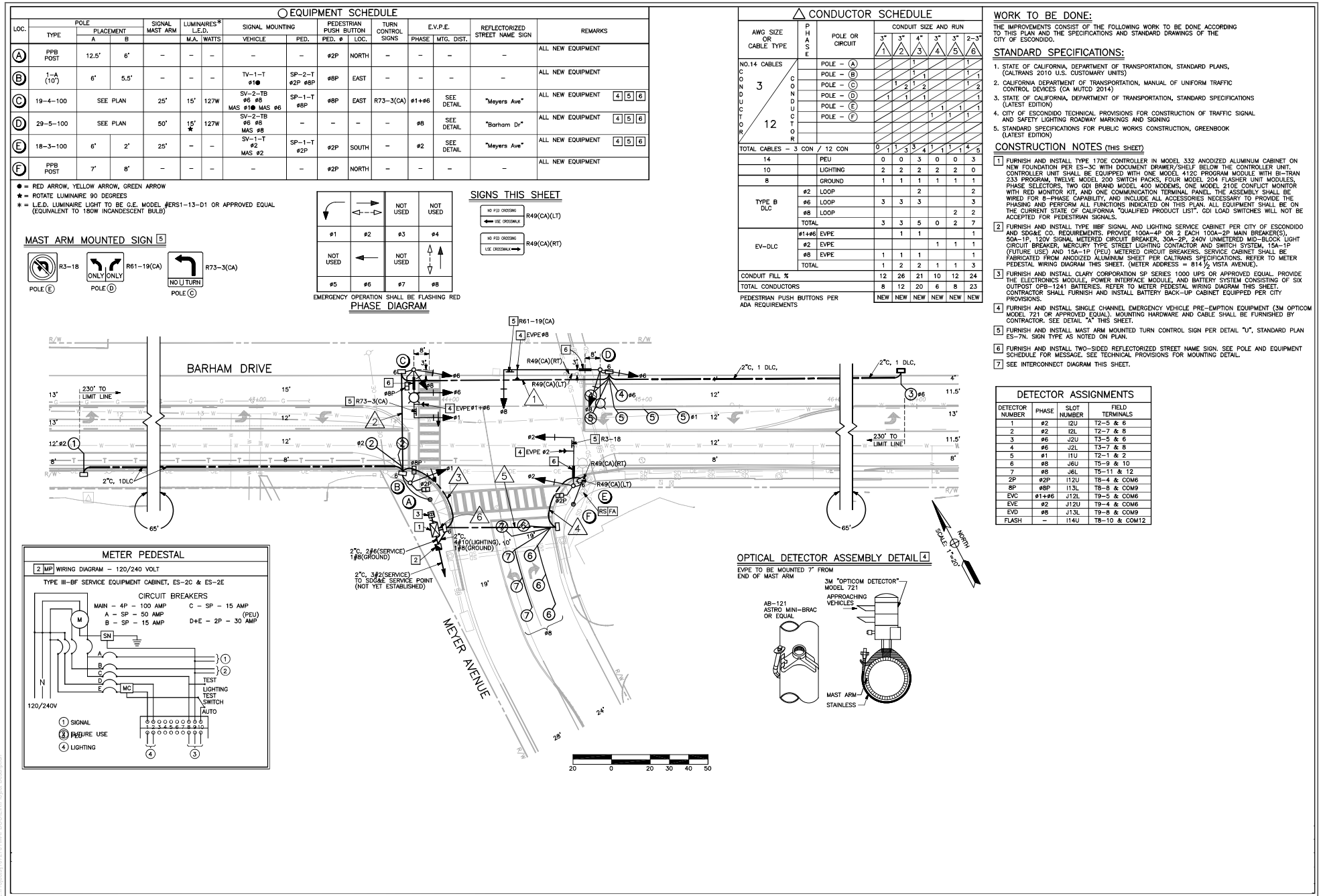
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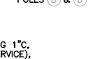
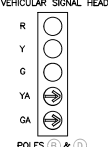
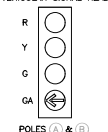


SOURCE: Linscott, Law & Genspan, 2019

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● = RED ARROW, YELLOW ARROW, GREEN ARROW
 □ = 4-SECTION VEHICULAR SIGNAL HEAD, SEE DETAIL "A" THIS SHEET.
 ▲ = 5-SECTION VEHICULAR SIGNAL HEAD, SEE DETAIL "B" THIS SHEET.

1. SIGNS THIS SHEET



WORK TO BE DONE:
THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THIS PLAN AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE

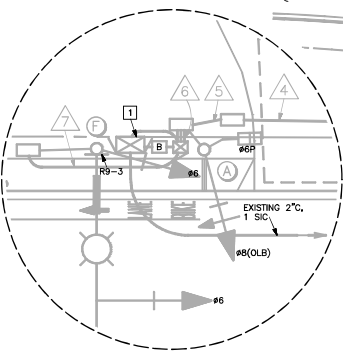
STANDARD SPECIFICATIONS:

1. STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS, (CALTRANS 2010 U.S. CUSTOMARY UNITS)
2. CALIFORNIA DEPARTMENT OF TRANSPORTATION, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD 2014)
3. STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS (LATEST EDITION)
4. CITY OF ESCONCIDO TECHNICAL PROVISIONS FOR CONSTRUCTION OF TRAFFIC SIGNAL AND SAFETY LIGHTING ROADWAY MARKINGS AND SIGNING
5. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, GREENBOOK EDITION

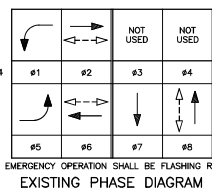
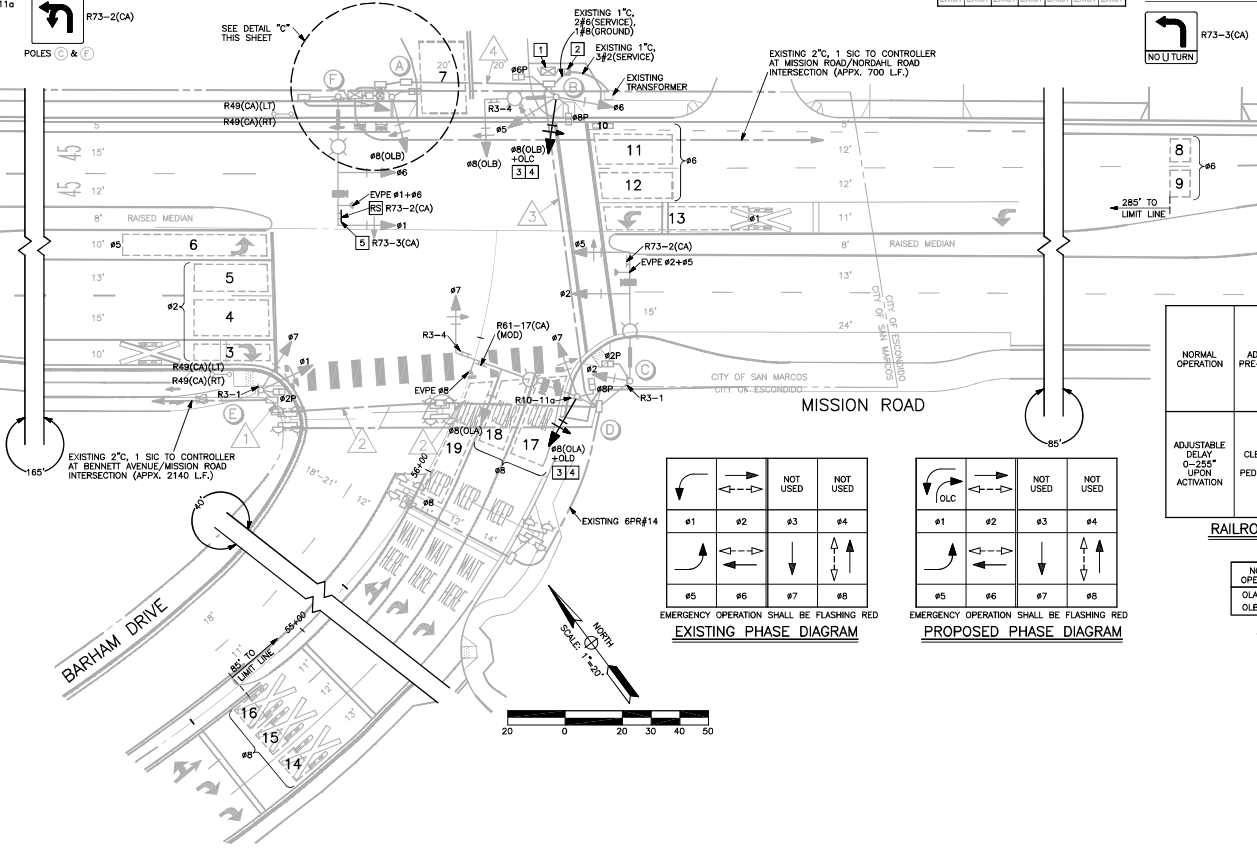
CONSTRUCTION NOTES (THIS SHEET)

- 1 CONTRACTOR SHALL PROTECT IN PLACE EXISTING CONTROLLER AND CABINET AND PROVIDE ANY ADDITIONAL EQUIPMENT AS NECESSARY FOR EXTENDED OPERATION.
- 2 PROTECT IN PLACE EXISTING SERVICE LIGHTING AND SERVICE PEDestal.
- 3 CONTRACTOR SHALL REMOVE EXISTING VEHICULAR HEAD MOUNTING AS SHOWN ON PLAN.
- 4 CONTRACTOR SHALL REMOVE EXISTING VEHICULAR HEAD(S) AND INSTALL NEW 5" SECTION VEHICULAR SIGNAL HEAD ONTO NEW VEHICULAR HEAD MOUNTING AS SHOWN ON PLAN. SEE DETAIL "B".
- 5 FURNISH AND INSTALL MASTER ARM MOUNTED SIGN PER DETAIL "J" STANDARD PLAN ES-77N.

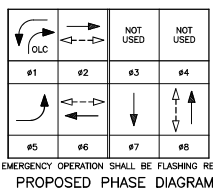
MAST ARM MOUNTED SIGNS 5



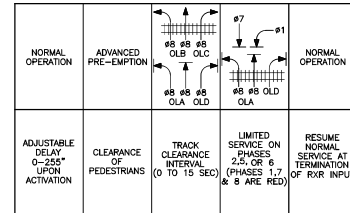
DETAIL "C"
SCALE: 1"=10'



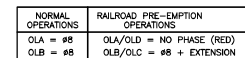
EXISTING PHASE DIAGRAM



EMERGENCY OPERATION SHALL BE FLASHING RED
PROPOSED PHASE DIAGRAM

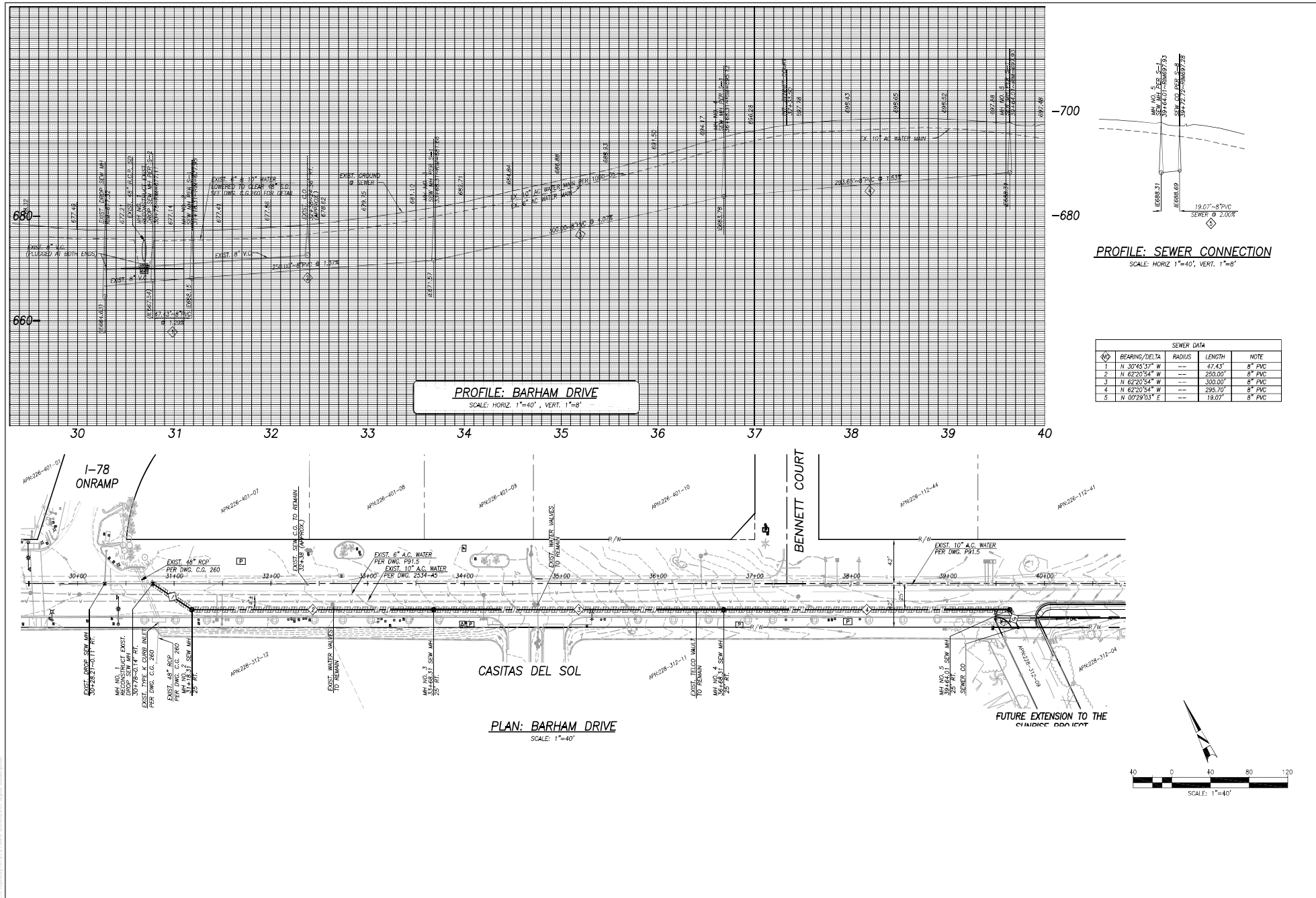


RAILROAD PRE-EMPTION SEQUENCE

RAILROAD PRE-EMPTION

DESIGN SPEED: BARHAM DRIVE = 35 MPH
DESIGN SPEED: MISSION ROAD = 45 MPH

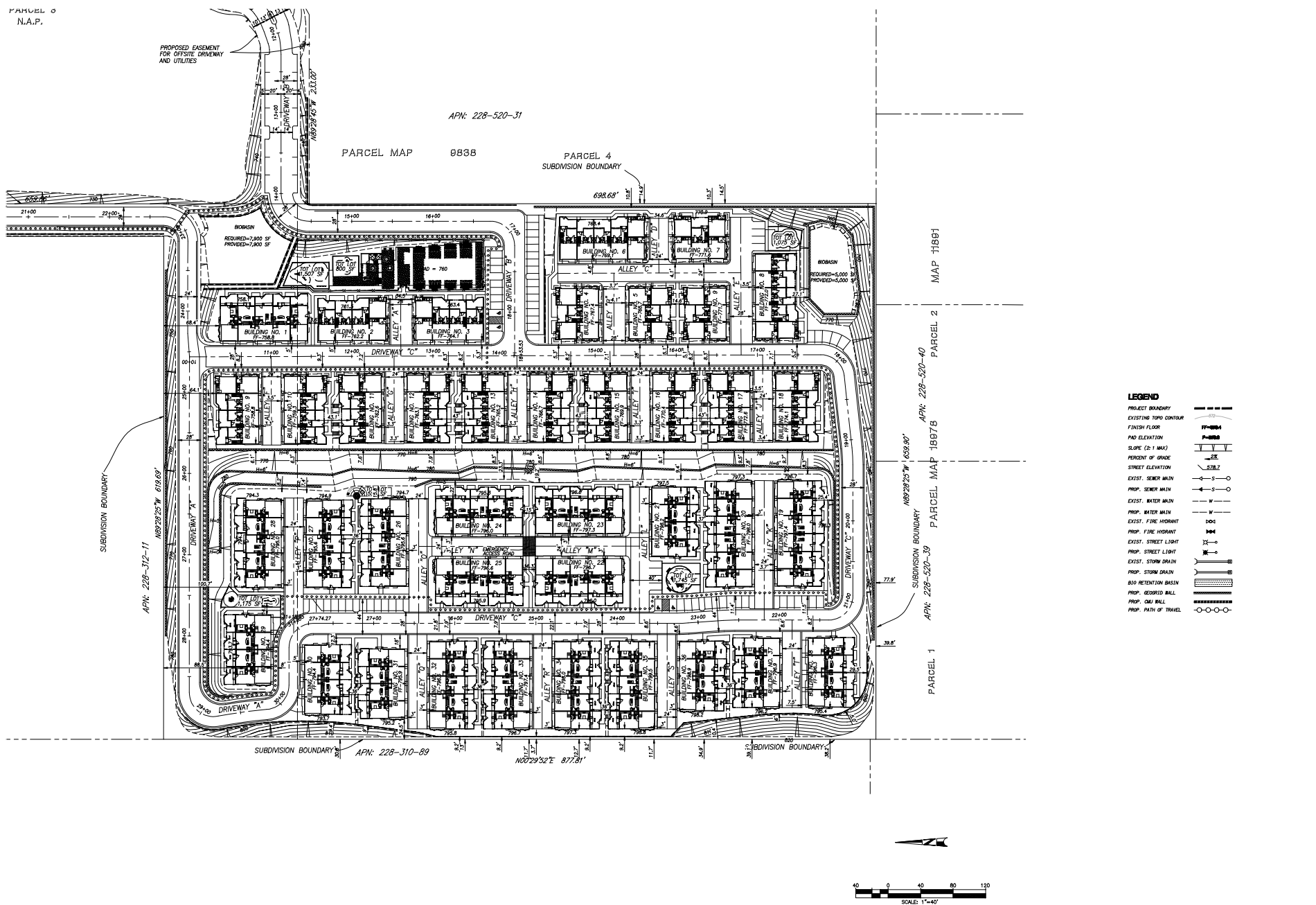
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SOURCE: Summa Architecture 2018

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FIGURE 2-14a
Tentative Map

Sunrise Specific Plan Environmental Impact Report

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Project Boundary

Cumulative Projects

1, Corner @ 2 Oaks

2, University District Block K

3, Kaiser Permanente Master Plan

4, Main Square

5, San Elijo Hills

6, Pacific Commercial

7, Brookfield Residential

8, San Marcos Highlands

9, The Marc

10, El Dorado II Specific Plan

11, San Elijo Hills Town Center

12, JR Legacy II

13, Meadowlark Canyon

14, Mariposa II

15, Murai

16, Copper Hills Specific Plan

17, Pacifica San Marcos

18, Fenton South

19, Windy Pointe Phase II

20, Fitzpatrick

21, MacDonald Group

22, Mission 24

23, Mission 316 West

24, Lanikai

25, Mesa Rim Climbing Center

26, Artis Senior

27, Lomas San Marcos

28, Montiel Commercial

29, California

30, Budhi Hill Buddhist Center

31, Mercy Hill and Marian Center

32, West Health Pace

33, Karl Strauss Brewery

34, C3 Church

35, Sandy Lane

36, T&R Mini Storage

37, Montiel Heights/Montiel Road Townhomes

38, Harmony Grove Village

39, Harmony Grove Village South

40, Valiano Development

41, Citracado Parkway Extension

42, Oak Creek

43, Escondido Country Club - The Villages

44, Center City Shopping Center

45, Escondido Innovation Center

46, Gateway Grand Residential

47, Latitude II Condominiums

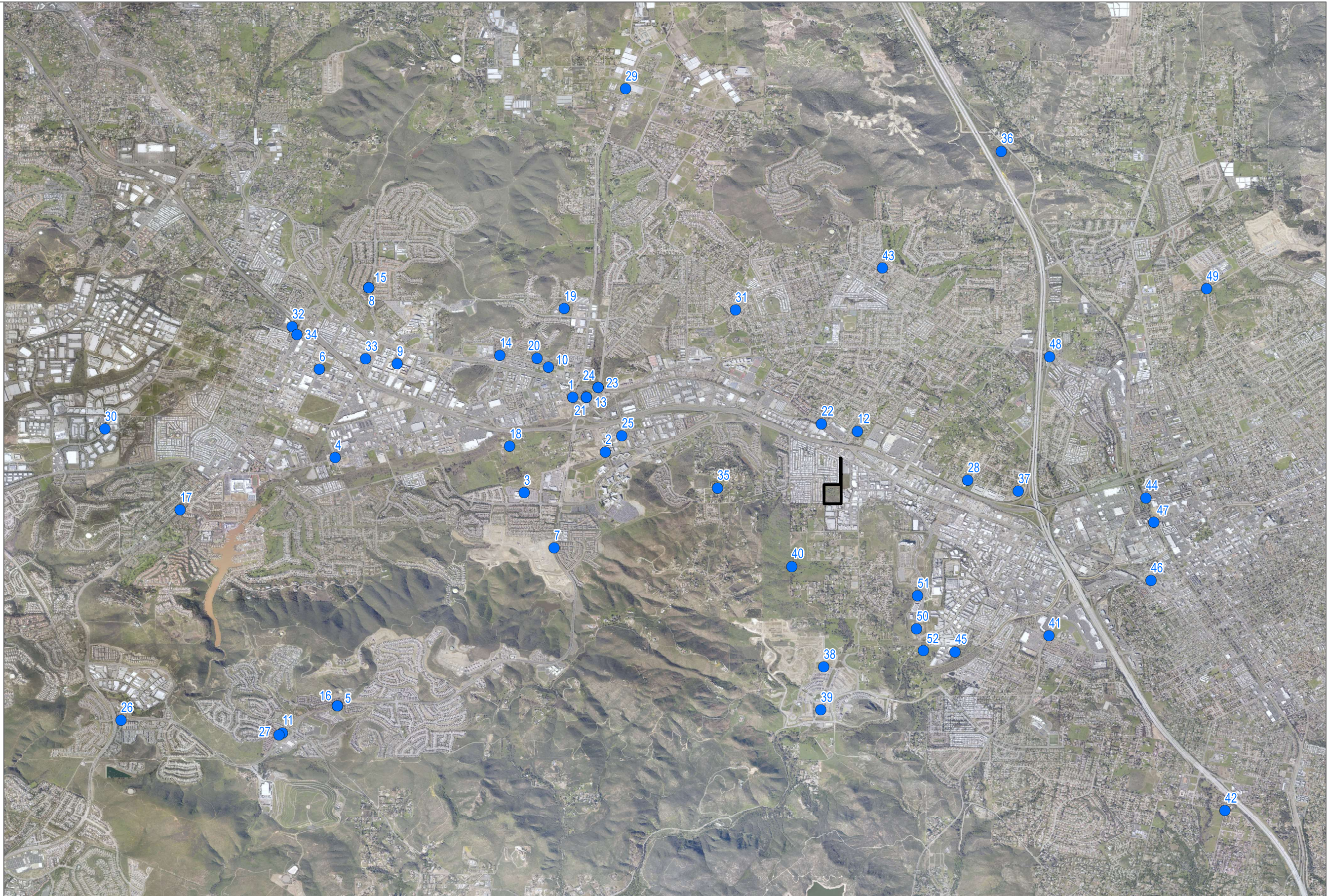
48, Nutmeg Residences

49, Zenner Development and Annexation

50, Escondido Research and Technology Center (ERTC) Medical Office

51, Stone Brewery Hotel

52, Pacific Harmony Grove



SOURCE: SANGIS 2017

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3 ENVIRONMENTAL ANALYSIS

3.1 AESTHETICS

This section describes the existing visual setting of the project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed 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 Caltrans' California Scenic Highway Mapping System, the project site is not located adjacent to, or in the vicinity of, a designated state scenic highway (Caltrans 2011). State Route 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 0.25 miles north of the project site, however the portion designated as a state scenic highway begins approximately 37 miles east of the project site. Additionally, the portion of SR-78 from the west boundary of the Anza-Borrego Desert State Park to the junction of SR-78 and SR-79 in Santa Ysabel is eligible for state scenic highway designation (Caltrans 2011). The project site is located approximately 26 miles

east of the closest point of this eligible state scenic highway. Interstate 5 (I-5) and State Route 76 (SR-76) are also eligible state scenic highways, though not officially designated. I-5 is located approximately 11 miles west and SR-76 approximately 10.75 miles northwest of the project site.

At a local level, the City has designated SR-78 as a view corridor for its unobstructed visual passageway. The highway corridor provides views of the Merriam Mountains, Mount Whitney, Double Peak, CSUSM, 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 and tall vegetation south of the highway. However, a portion of the project site is visible from SR-78 generally between the highway entrance at E Barham Dr and Nordahl Road. Views from SR-78 are addressed below in the discussion for Key Observation Point (KOP 2).

Scenic Vista

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.¹ 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 2012a). The project site and surrounding valley terrain are encompassed by mountains to the west and south that provide opportunities for elevated vantage points offering long and broad views, which may include views of the project site. Potential vantage points include Mount Whitney and Franks Peak located 2 miles and 2.25 miles southwest of the project site, respectively. There is a potential for the project site to be visible from the Mount 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 Mount Whitney. Double Peak is also a prominent landform with long and broad views located approximately 3 miles southwest 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. As discussed below, KOPs with visual simulations are used to aid in visual analysis.

¹ Potential scenic views from private properties are not under consideration in this analysis.

Project Site

The project site is currently a primarily undeveloped, vacant lot that generally slopes from east to west, with hills in the northwest and southwest corners of the site. On site elevations range from approximately 700 feet above mean sea level (amsl) (where the proposed “Private Driveway A” would intersect with E Barham Drive) to 815 feet amsl (in the southeast corner of the project site). Visually, the project site is heavily influenced by the existing vegetation that covers the majority of the site. As detailed in the Biological Technical Report prepared for the project, the project site supports black sage scrub, California buckwheat scrub, wild oats grassland, and white sage scrub. The southern portion of the project site exhibits a rolling form and consists mostly of dense and low-lying, dark colored black sage scrub interspersed with some tan dirt. The northernmost portion of the project site consists of low-lying wild oats grassland and California buckwheat scrub. This vegetation generally displays a flat form and light green and light brown color. Finally, a cluster of large boulders occurs on the northeast portion of the project site, and ornamental plantings are located off-site adjacent to the proposed access driveway from Meyers Avenue.

The project site also contains some man-made features including electrical infrastructure poles and associated wiring. The electrical distribution lines span from the center of the northern boundary of the project site to the southeast corner of the site. Electrical poles appear tall, narrow, and dark brown in color. There are also various unauthorized, light brown dirt trails spanning from the northeast portion of the project site, where access from Meyers Avenue is proposed, to the middle of the site.

Surrounding Area

The project site is surrounded by development on all sides with the exception of the northeast corner, which is directly adjacent to a vacant, undeveloped lot. To the north and west of the project site are existing residential developments. To the east and south of the project site are existing commercial developments. The residential development to the west is the Casitas Del Amigos community, characterized by densely packed, rectangular mobile homes, ranging in exterior color. However, aerial views show these residences as light brown and grey. single-story residences. The closest residences adjacent to the western-most edge of the project site are at a lower elevation than the project site. There is also a light brown fence between the western boundary of the project site and the Casitas Del Amigos development. The residential development to the north of the project site is the Casitas Del Sol community, also characterized by densely packed, rectangular mobile homes, though primarily white and grey colored. Some ornamental landscaping divides these single-story residences from the northern boundary of the project site. A light tan fence also lines the northern boundary of the project site along this residential development. Finally, private roadways circulate throughout each of these residential developments.

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To the south and east of the project site are existing commercial and light-industrial land uses, including the Nordahl Industrial Park, characterized by large, multi-story, grey-colored buildings with associated dark, asphalt surface parking areas. Building facades are tall and sterile with limited windows, starkly contrasting the mobile home communities that exist across the project site. Public roadways in the area primarily provide access to these developments and are generally lined with concrete sidewalks and tall, mature trees and other ornamental landscaping. The commercial and industrial land uses adjacent to the southern and eastern borders of the project site are at a lower elevation as the landscape descends from the project site. There are also light brown walls dividing the project site from these adjacent developments. Finally, ornamental landscaping exists along the southern and eastern boundaries of the project site to provide separation and some visual screening between adjacent land uses and the project site.

Key Observation Points and Visual Simulations

Factors considered in the selection of KOPs used in visual simulations included proximity to the project site, angle of observation, volume of viewer, viewer sensitivity, and length of time the proposed project is in view. KOPs were selected by the applicant in collaboration with City staff.

Photographic simulations that depict the proposed project and potential visual change to the landscape were created from the KOPs. The simulations are used to illustrate the anticipated level of contrast associated with implementation of the proposed project and to determine the significance of anticipated change in the visual landscape. The simulations include existing site photographs as background images and true-scale 3-D models for the proposed project rendered onto the existing photographs. Where applicable, visual simulations are referred in the CEQA impacts analysis as it relates to scenic vistas, scenic highways, and existing visual character or quality. Below is a discussion of how KOPs were chosen for the proposed project.

The majority of the project site is not visible due to existing adjacent development and a general lack of public vantage points. The project site is surrounded by residential developments with private roads to the north and west and commercial and industrial developments to the south and east. Views from the closest public road to the south of the project site (Executive Place) are blocked by existing commercial buildings. The closest public roads to the east of the project site are Corporate Drive and Meyers Avenue. Corporate Drive is at a lower elevation than the project site and is also lined with commercial buildings; therefore, views of the site are obstructed. Meyers Avenue is the closest public roadway with greatest visibility, and the northeast corner of the project site is visible from this location. Thus, this location was chosen as KOP 1. Views of the project site from Meyers Avenue slope upwards with distance. Some tall, mature trees and low-lying wild oats grassland can be seen at a distance from Meyers Avenue and are characterized by various shades of green and some light brown, earth-tone colors.

A small portion of the project site can also be viewed from E. Barham Drive. Between an existing Casitas Del Sol residential development to the west and a self-storage facility to the east exists a narrow strip of undeveloped land with an unimproved tan access road. Wild oats grassland, California sage scrub, and several palm trees are visible along this strip of land from E. Barham Drive. Visually, this portion of the project site exhibits light brown, earth-tone colors with some light green interspersed.

Finally, as previously discussed, a portion of the project site is visible from SR-78 generally between the highway entrance at E Barham Dr and Nordahl Road. Views of the project site from SR-78 are generally obscured from the view of motorists due to exiting commercial and residential developments and tall vegetation south of the highway. However, as a heavily trafficked State Highway with some visibility of the project site, this location was chosen as KOP 2.

Key Observation Point 1 – Meyers Avenue

KOP 1, as shown in Figure 3.1-1, is located along Meyers Avenue, approximately 350 feet east of the northeastern corner of the project site. Meyers Avenue is the closest public roadway with greatest visibility of the project site. Potential viewers at KOP 1 would primarily include motorists traveling south along Meyers Avenue. Based on the location and surrounding land uses, these motorists would likely be employees and customers associated with the commercial developments south and east of the project site. It is unlikely that pedestrians would be located at KOP 1 because there are no sidewalks along either side of this segment of Meyers Avenue. From KOP 1, views of the project site are limited to the northeastern project boundary, which slopes gradually upwards with distance. Currently, there is a vacant and undeveloped lot between Meyers Avenue and this corner of the project site, which allows for clear, unobstructed views of this small portion of the site. Due to this topographical incline from Meyers Avenue; however, the project site is the highest visible point and thus distant views of the mountains to the south and west are nonexistent from this location.

Currently, flat, light brown grassland and scrub exist on the project site and are visible from KOP 1, across the undeveloped lot adjacent to Meyers Avenue and the project site. The tall, narrow electrical distribution poles and wiring on the project site are also visible from this location. Low-lying, light brown grassland densely covers the flat, undeveloped off-site lot. Additionally, few single-family residences to the north of the project site are visible. These residences are single story mobile homes that appear generally rectangular and horizontal in form, blending with the topography of the landscape. Observable colors of these residences include light yellow, blue, white, and light brown. Finally, one commercial building east of the project site is partially visible; however, tall and mature, dark green trees and other ornamental vegetation screen the majority of this building. Viewers' eyes are likely drawn to the existing tall trees in the distance off the project site, and the existing vertical electrical distribution poles, as these elements protrude from the ground-level vegetation that dominates most of the landscape.

Key Observation Point 2 – State Route 78

KOP 2, as shown on Figure 3.1-2, is located along SR-78, approximately where SR-78 crosses over E. Mission Road. The view is oriented looking south towards the project site. Potential viewers at KOP 2 would be motorists traveling along SR-78 either east or westbound. From KOP 2, the viewable portion of the project site is approximately 2,000 feet southwest of SR-78, beyond existing commercial and residential developments. Although the project site is beyond existing development, it is at a higher elevation than this development. Thus, the northern portion of the project site is fairly visible from this segment of SR-78. However, viewers would be traveling at high speeds in an east or west direction as the speed limit along this segment of SR-78 is 65 miles per hour (MPH). Additionally, viewers would not be directly facing any viewable portion of the project site at any point while traveling along SR-78. Thus, while there would be a higher volume of viewers at KOP 2 as compared to KOP 1, they would have low to no sensitivity to changes in the visual environment.

From KOP 2, wide and expansive views are afforded as viewers travel along SR-78. Foreground views from KOP 2 are dominated by existing commercial development intermixed with tall, mature trees, which occasionally block views of the project site. Distant views include prominent ridgelines southwest of the project site, which are included in the City's Ridgeline Protection & Management Overlay Zone (City of San Marcos 2012b). However, the project site is not located in a Ridgeline Overlay Zone as identified by the San Marcos Municipal Code Zoning Ordinance Title 20. The peak of Mount Whitney is also visible from KOP 2. Partial views of Franks Peak are also visible, however mostly obstructed, as Mount Whitney exists between KOP 2 and Franks Peak. While not included in the existing image from KOP 2, street lamps, electrical distribution poles, and highway signs occasionally block these distant features from views as motorists travel along this segment of SR-78. Beyond the existing commercial developments, views of the project site from KOP 2 are limited to the northern portion of the site. Mobile homes adjacent to the northern project boundary also partially screen the northernmost portion of the project site; however, the project site slopes upwards, away from these mobile homes. Thus, views of the site are still afforded from this location as the project site is at a higher elevation than adjacent development. Similar to KOP 1, viewers can see the elevated hill and flat, light brown grassland and scrub currently existing on the northern portion of the project site. Viewers are drawn to the distant ridgelines and peak of Mount Whitney southwest of the project site, as these are the most prominent landforms in this view.

Existing Light and Glare Conditions

The project site is currently undeveloped and thus does not contain any existing sources of light or glare. Additionally, the project site does not contain any reflective surfaces that would act as sources for glare.

With the exception of the undeveloped vacant lot to the northeast of the project site, developed areas to the west, north, east and south contain sources of nighttime lighting typical of residential, commercial, and industrial development. Residential developments existing to the north and west of the project site contain typical sources of residential lighting including outdoor lighting fixtures on structures and at parking areas. No sources of substantial glare are present in this area.

Commercial and industrial developments existing to the east and south of the project site also 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 proposed project would qualify as a residential project on an infill site within a transit priority area. This is further addressed in Section 3.1.4 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 2011). 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 2012a):

- **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.

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 2012b).

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, light-emitting diode (LED) and induction lighting technologies (City of San Marcos 2012b).

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 2012b). No primary or secondary ridgelines are located within or adjacent to the project site; the nearest ridgeline is a secondary ridgeline located approximately 1.25 miles west of the project site. The nearest primary ridgeline is located approximately 1.75 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 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 previously mentioned, California Public Resources Code (PRC) Section 21099 dictates that aesthetic impacts of a residential 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.

Furthermore, per PRC Section 21071, an “urbanized area” is defined 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.” PRC Section 21071 also defines an urbanized area for unincorporated areas; however, San Marcos and the contiguous City of Escondido are both incorporated cities, so this definition was not included.

As of July 1, 2017, the US Census Bureau estimated the population of San Marcos to be 96,198 persons (USCB 2017). 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 151,969 persons as of July 1, 2017 (USCB 2017). The combined estimated population of these two contiguous cities is would be 248,167 persons, which is well over the 100,000 persons threshold. Thus, the City of San Marcos would be considered an urbanized area per CEQA.

Finally, the project site would be located within a “transit priority area” according to Section 21099 of the PRC. A “transit priority area” is defined as “an area within one-half mile of a major transit stop that is existing or planned.” The project site is located less than one-half mile from the Nordahl Road Sprinter Light Rail station, and any existing rail transit station is considered to be a major transit stop per PRC Section 21064.3. Thus, the proposed project would be considered a residential project on an infill site within a transit priority area per PRC 21099. Therefore, aesthetic impacts shall not be considered significant impacts on the environment.

However, regardless of this exemption in PRC Section 21099, potential impacts to aesthetics are still discussed below for informational purposes.

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

The project site is not identified as a protected scenic vista. The proposed residential development would be surrounded by existing development on all sides, with the exception of a vacant and undeveloped lot adjacent to the northeast corner of the project site. Existing developments include

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single-story mobile homes to the north and west and large, commercial and industrial buildings to the south and east. Thus, the proposed project would be compatible with the surrounding environment and blend with adjacent developments. While the project site is not identified as a scenic vista in the San Marcos General Plan, the General Plan does include policies regarding the protection of scenic resources (City of San Marcos 2012a). Below is a summary of the proposed project's consistency with applicable scenic resource preservation policies.

Policy COS-3.1 of the Conservation and Open Space Element of the City's General Plan calls for the preservation of 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 (City of San Marcos 2012a). The closest identified scenic resource to the project site is Franks Peak located 2.25 miles southeast of the project site. Mount Whitney, although not identified, could be considered a prominent landform as well. Mount Whitney is located 2 miles southeast of the project site. Views of the project site could potentially be afforded from these prominent landforms, as they are at a higher elevation than the site and allow for broad and expansive views of the surrounding area. However, as previously mentioned, peak access to Mount Whitney is prohibited to the public and views towards the project site from Franks Peak are partially obstructed by Mount Whitney. Although views of the project site may be possible from the summit of Franks Peak and adjacent public recreational trails, the proposed project would blend with adjacent developments due to the distance and thus would not substantially change these views. Further, the proposed project would not result in development within any of the areas listed in this policy, therefore the proposed project would be consistent with this policy.

Policy COS-3.2 encourages high-quality architectural and landscaping designs that enhance or complement the hillsides, ridgelines, canyons, and view corridors that comprise the visual character of San Marcos (City of San Marcos 2012a). The Sunrise Specific Plan includes design rules and themes to create a foundation for development (see EIR Appendix B). The Specific Plan area addresses community planning goals and incorporates core recreational concepts into the development design. The architectural style proposed in the Specific Plan is Contemporary Brownstone. The Specific Plan does not limit the Plan area to this style. However, this style was chosen as it respects the adjacent commercial and industrial buildings (Appendix B). A conceptual landscape plan has also been prepared for the proposed project and is included as Figure 2-5 of Chapter 2, Project Description, of this EIR.

Implementation of the proposed project would result in changes in the existing visual character and quality of the project site; however, these changes are not characterized as a substantial degradation. The project incorporates extensive design features that address landscaping, and architectural treatments and design. In summary, the project would not have a substantial adverse impact on a scenic vista, or City scenic resources, and impacts would be 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?

SR-78 is located 0.25 miles north of the project site. However, as previously discussed, 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. Additionally, a portion of SR-78 is also identified as an Eligible State Scenic Highway; however, this eligible segment begins 26 miles east of the project site in Santa Ysabel. I-5 and SR-76 are also designated State Scenic Highways but are located approximately 11 miles west and 10.75 miles northwest of the project site, respectively. Therefore, the project site is not located within a state scenic highway.

As detailed, views of the project site from SR-78 are generally limited due to existing commercial and residential developments and vegetation. Additionally, only the northern portion of the project site is visible due to the on-site topography. With project implementation, views of the surrounding hillsides and ridgelines would not be substantially obstructed from SR-78.

Further, the project site is currently undeveloped and thus does not support any historic buildings. There are also no rock outcroppings or trees on site. Thus, the proposed project would not substantially damage scenic resources within a state scenic highway. 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 per the PRC. Therefore, the first question of Threshold #3 does not apply to the proposed project, as it is directed at non-urbanized areas. However, a discussion of potential impacts to the existing visual character or quality is still included below, as well as a discussion of project consistency with applicable zoning and other regulations governing scenic quality.

The project site is located on two parcels, one within the jurisdiction of the City and the other within County of San Diego jurisdiction. The northern parcel within the City is currently zoned Mobile Home Park (R-MHP), and is designated as Low Density Residential (LDR) by the City's General Plan. The southern parcel within the County is currently zoned Single Family Residential (RS), and is designated Semi-Rural Residential (SR-1) by the County's General Plan. The southern parcel is also designated Light Industrial (LI) by the City's General Plan, as the parcel is within its Sphere of Influence. The project site is not currently subject to any zoning governing scenic quality, such as a scenic overlay zone.

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The proposed project would consist of an Annexation, General Plan Amendment, Rezone, Multi-Family Site Development Plan, and Specific Plan. With future approval of the request discretionary actions, the project site would be rezoned and re-designated such that the rules and regulations of the Specific Plan would govern all development within the site. The project's Specific Plan would establish the development rules and regulations of all land uses within the project site, including visual and aesthetic requirements. Therefore, because the proposed project is within an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality, impacts would be less than significant.

As identified above, the existing visual character of the site is an undeveloped lot that currently supports black sage scrub, California buckwheat scrub, wild oats grassland, and white sage scrub. Further, the site is entirely surrounded by existing development with the exception of a vacant, undeveloped lot adjacent to the northeast corner of the project site. Surrounding development includes single-story mobile homes to the west and north, and large commercial and industrial buildings to the east and south. The proposed project would allow for the development of approximately 192 multi-family residential dwelling units.

Although there is generally a lack of public vantage points of the project site, visual simulations were prepared from two viewpoints. Figure 3.1-2 provides before and after views of the project site from SR-78, approximately where SR-78 crosses over E Mission Road.

As discussed above under KOP 2, the existing view from SR-78 is of commercial and residential developments and tall, mature trees in the foreground and middleground, and partially obstructed distant views of Mount Whitney, Franks Peak, and various ridgelines. The project site is visible beyond the existing commercial and residential developments as the site is at a higher elevation than SR-78. However, due to the hill in the northeast corner of the project site, only the northernmost portion of the site is visible from this vantage point. As seen in this visual simulation (Figure 3.1-2), proposed residences would be visible in the middleground of this view, but would be softened by the intervening landscaping proposed on-site. Although the project would be visible from SR-78, distant views to Mount Whitney, Franks Peak, and the various ridgelines would not be significantly impacted, as the most distinct features of these peaks and ridgelines occur further west than the boundary of the project site. Therefore, views would not substantially change from this viewpoint.

The existing view from Meyers Avenue, as discussed above under KOP 1, is of a vacant and undeveloped lot in the foreground and some residences of the Casitas Del Sol community adjacent to the north boundary of the project site in the middleground. Additionally, existing trees and scrub are visible both on and off the project site. There are no distant views due to the inclining slope from Meyers Avenue to the project site. Only the northeast corner of the project site is visible from this location. With project implementation, a biological retention area would be located in the northeast corner of the project site, adjacent to the undeveloped lot which dominates the majority

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of this view. This biological retention area would be used to direct water during rain events to control for flooding and to treat water before it is discharged from the site. As the closest project component to Meyers Avenue, this passive open space, bio-retention basin would ease potential visual impacts from this viewpoint since it would contribute to screening the man-made project components beyond the basin.

A private driveway would also be constructed as an off-site improvement in the City of Escondido, connecting Meyers Avenue to the project site. From this viewpoint along Meyers Avenue, this off-site driveway would be visible and would be adjacent to an existing driveway and the ornamental vegetation that currently screens the industrial development east of the project site. Although views from this location would change, the proposed project would result in the construction of a residential development in a highly urbanized area, adjacent to an existing mobile home community to the north and industrial development to the east. Therefore, the proposed project would visually blend with the existing development and character of the surrounding environment. Furthermore, the majority of this view would remain unchanged with project implementation as only the northeast corner of the site is visible from Meyers Avenue. Thus, the project would not substantially change views from this viewpoint.

Finally, a small portion of the project site is visible from E. Barham Drive when oriented south. The foreground of this view is of the Casitas Del Sol residential development to the west and a self-storage commercial development to the east of the project site. Several visible trees and electrical distribution poles and wires exist in the foreground both on and off the project site as well. Between these developments lies a narrow strip of undeveloped land with an unimproved access road, which is included in the project site. Project implementation would develop this narrow strip of land into the access driveway for the project site. However, this driveway would appear to blend with the adjacent developments and would not be a substantially noticeable change in the visual environment as there are many similar driveways along E Barham Drive. Lastly, distant views from this location are generally obstructed by existing developments in the foreground. Construction of this driveway as part of the proposed project would not obstruct any existing views. Thus, views would not significantly change from this viewpoint.

As described above, the visual character of the site would be altered by the proposed development from vacant and undeveloped land to a residential development. While the project changes 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 entirely surrounded by adjacent development in a highly urbanized area. The project would thus conform to the existing character of the surrounding area and would not substantially change the views from any public viewpoint. Further, a landscape plan would be implemented to soften the visual impact of the proposed project. The conceptual landscape plan is included as Figure 2-5 of this EIR. The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts would 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 along Meyers Avenue and lighting associated with the existing residential, commercial, and industrial uses that surround the project site. Development of the proposed project would introduce lighting to a site that is currently undeveloped and has no existing source of lighting.

Lighting within the project site would be used to accent landscaping and provide safety and accent lighting for multi-family building clusters. All lighting within the proposed project would be energy efficient, architecturally appropriate fixtures designed to minimize glare and light pollution, while providing illumination levels that create a safe environment for both vehicles and pedestrians. All areas of the project site will be appropriately lit to coincide with their relevant use and activities. Street area lights would contain full cut-off fixtures and would utilize house-side shields to reduce light trespass and prevent light pollution. Further, all lighting would comply with the City's Municipal Code Section 20.300.080, Light and Glare Standards, and any other applicable sections. Conceptual lighting fixtures and locations are shown on Figure 2-7 of this EIR.

The proposed project would create a new source of light in the area; however, the project site is in a highly urbanized area and is surrounded by existing development with existing sources of day and nighttime lighting, as discussed above. Compliance with the City's Municipal Code would minimize and restrict nighttime light pollution and light trespass on adjacent properties. Thus, new sources of day or nighttime lighting associated with the proposed project would not be considered substantial. Impacts associated with project lighting would be less than significant.

Glare

The use of reflective building materials and finishes, as well as reflective lighting structures and metallic surfaces would be minimized to the extent feasible to impede the creation of project-generated glare. The proposed residential structures would have facades incorporating windows for internal lighting and visual articulation; none of the proposed structures would have large, uninterrupted expanses of reflective glazing or glass. The proposed buildings would utilize materials such as wood, stone, stucco, and brick, while metal for accents and trims would be acceptable. Further, exterior color finishes would include deep to light earth and natural tones, including but not limited to, white, brown, beige, tan, grey, and cream. Therefore, the project does 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. Impacts would be less than significant.

3.1.5 Cumulative Impact Analysis

As discussed above in Sections 3.1.2 and 3.1.4, under PRC Section 21099(d)(1), aesthetic impacts resulting from the project shall not be considered significant. Notwithstanding, potential cumulative impacts to aesthetics are discussed below for informational purposes.

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 proposed 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 proposed 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, Mount 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. Three cumulative residential developments in the County of San Diego (Harmony Grove, Harmony Grove South, and Valiano) would be in the same viewshed as the proposed project from atop these scenic resources. As previously discussed, the summit of Mount 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 all three of these County residential projects, and potentially portions of the proposed project. However, as mentioned, Mount Whitney partially obstructs views towards the project site from Franks Peak. Viewers oriented east and northeast from Franks Peak, towards these cumulative projects and the proposed project, experience broad and expansive views of the urbanized landscapes of Escondido and San Marcos, with Daley Ranch and the Merriam Mountains in the distance. These cumulative projects would be highly visible and dominate views in the foreground, as they would be some of the closest residential developments to this viewpoint.

Although these three cumulative projects would substantially change the landscape from semi-rural residential, agricultural, and equestrian uses to planned residential neighborhoods, the proposed project would not contribute to this major physical change for several reasons. Primarily, when viewed from off-site locations, including expansive vantage points such as Franks Peak, the proposed project would not substantially contrast with the visual patterns of the area as it would blend with the existing development and appear as an extension of the already highly urbanized landscape. Secondly, the proposed project is not contiguous with these

3.1 Aesthetics

cumulative projects and is located further north, on a separate vacant and undeveloped lot that is entirely surrounded by existing residential, commercial, and industrial uses, with the exception of a small, undeveloped lot adjacent to the northeast corner of the project site. Finally, these large, planned residential developments would visually “outweigh” the proposed project, totaling 818 acres of contiguous development versus the 14.4-acre site for the proposed project. Therefore, the proposed project’s contribution to the cumulative change in visual character of the surrounding area would be less than significant.

As discussed, the closest Designated State Scenic Highway is SR-78; however, the segment designated as a State Scenic Highway is located in Anza Borrego State Park, approximately 37 miles east of the project site; and the segment designated as an eligible state scenic highway is 26 miles east. Therefore, the proposed project would not result in a cumulative impact to either the Designated State Scenic Highway or Eligible State Scenic Highway segments of SR-78. Nor would the proposed project result in a cumulative impact to Designated State Scenic Highways I-5 or SR-76, as they are located beyond intervening topography approximately 11 miles west and 10.75 miles northwest of the project site, respectively.

As discussed, the project site is surrounded by existing developments that contain sources of lighting typical of residential, commercial, and industrial uses. The proposed project would also introduce new sources of lighting to the project site, as the site is currently undeveloped and contains no sources of light. However, compliance with the City’s Municipal Code would restrict light trespass into adjacent properties and ensure that the proposed project would not have a significant impact with regard to a new source of lighting. The Valiano project would be the closest cumulative project to also result in new sources of lighting. The closest residences proposed in the Valiano project would be located approximately 2,000 feet southwest of the proposed project. Further, the Valiano project would be in compliance with the County of San Diego Light Pollution Code and would thus not result in a significant impact related to day or nighttime lighting. Therefore, the proposed project would not result in a cumulatively considerable lighting impact due to the distance between projects and a compliance with applicable lighting policies.

Concerning glare, the use of reflective building materials and finishes, as well as reflective lighting structures and metallic surfaces, would be minimized with the proposed project. Materials used for the proposed residential buildings would be non-reflective and neutral in color. Similarly, existing development surrounding the project site is not made of reflective materials that result in glare. There are no cumulative projects in the vicinity of the proposed project that would result in substantial new sources of glare. Therefore, the proposed project would not combine with other cumulative projects or existing developments to result in significant glare. Under PRC Section 21099(d)(1), the proposed project would result in a less than significant cumulative impact on aesthetics.

3.1.6 Mitigation Measures

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

3.1.7 Conclusion

As previously mentioned, the proposed project would be considered a residential project on an infill site within a transit priority area per PRC Section 21099 (2)(A). Therefore, aesthetic impacts shall not be considered significant impacts on the environment and all impacts related to aesthetics would be less than significant due to this exemption.

Development of the proposed project would result in a less than significant impact to scenic vistas and resources. The project would not develop on any primary or secondary ridgelines nor would the project substantially affect a scenic vista.

The project site is not located proximate 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. 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. Implementation of the project would result in changes to the visual character of the site from undeveloped to residential development; however, impacts would be less than significant due to a general lack of public vantage points and a visual conformance with adjacent development. The project's landscaping would also soften views of the proposed project.

Lighting and glare impacts were also determined to be less than significant, as future building would not include highly reflective finishes or excessive lighting. Further, the exterior lighting proposed for the project would comply with the City's Street Lighting Standards and Specifications and Municipal Code. Cumulative impacts were determined to be less than significant as well. Therefore, aesthetic impacts are concluded to be less than significant.



MEYERS - EXISTING

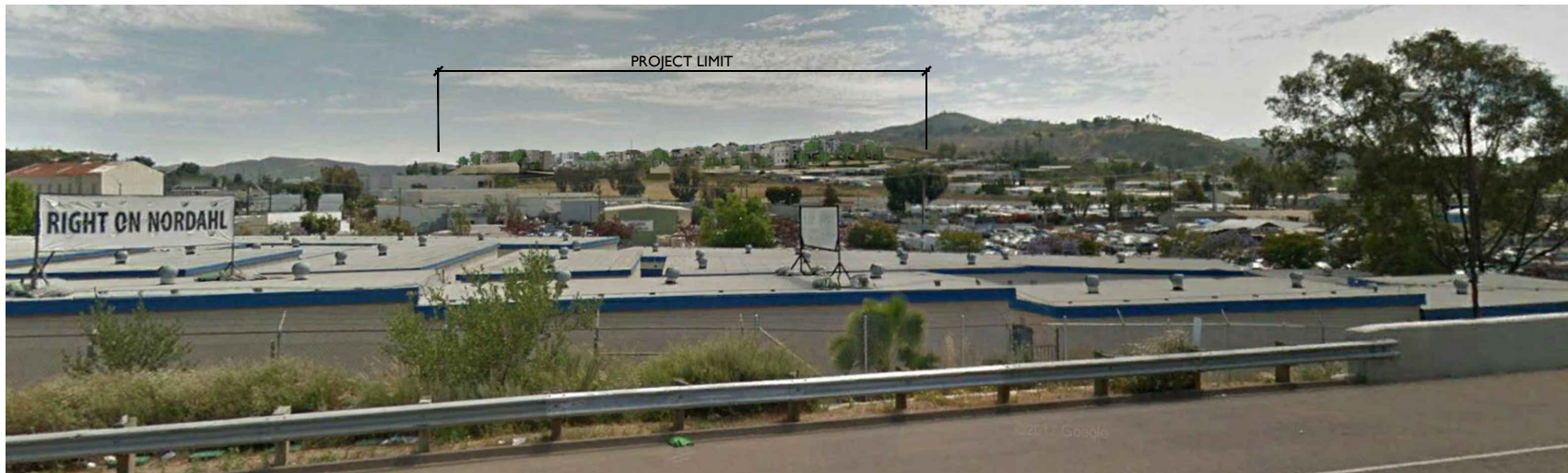


MEYERS - PROPOSED

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78-EAST - EXISTING



78-EAST - PROPOSED

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3.2 AIR QUALITY

This section describes the project's potential impacts on air quality and contribution to regional air quality conditions, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Sunrise Specific Plan (proposed project). This section is based on the Air Quality and Greenhouse Gas Emissions Technical Report for the Sunrise Specific Plan Project (Air Quality and Greenhouse Gas Emissions Technical Report) prepared by Dudek in December 2019. The complete Air Quality and Greenhouse Gas Emissions Technical Report is included as Appendix C of this environmental impact report (EIR).

Table 3.2-1 summarizes the project- and cumulative-level air quality impacts, by threshold.

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 proposed project.

Climate and Topography

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. The average summertime high temperature in the region is approximately 74°F, with highs approaching 76°F in August on average. The average wintertime low temperature is approximately 49°F, although record lows have approached 48°F in January. Average precipitation in the local area is approximately 10 inches per year, with the bulk of precipitation falling between December and March (WRCC 2017).

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, topography influences the dispersal and movement of pollutants in the air basin. The mountains to the east prevent dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). 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.

Baseline Air Quality

Regional

The project site is located in the land use jurisdictions of both the City of San Marcos (City) and the County of San Diego (County) within the San Diego Air Basin (SDAB) under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). The SDAB is one of 15 air basins that geographically divide the State of California. Current attainment designations for the SDAB are presented in Table 3.2-2. As shown, the SDAB is currently classified as a federal nonattainment area for ozone (O₃) and a state nonattainment area for particulate matter less than or equal to 10 microns (coarse particulate matter [PM₁₀]), particulate matter less than or equal to 2.5 microns (fine particulate matter [PM_{2.5}]), and O₃.

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 experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and the air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O₃, commonly known as smog (CARB 2014).

Regional air quality can be best characterized from ambient measurements made by the SDAPCD. 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 California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards

(NAAQS). Pursuant to the 1990 Clean Air Act amendments, 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 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. As previously discussed, these standards are set by EPA or the California Air Resources Board (CARB) for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. 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 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, calls for the designation of areas as “attainment” or “nonattainment,” but based on the CAAQS rather than the NAAQS. The SDAB attainment classifications for the criteria pollutants are outlined in Table 3.2-2.

Table 3.2-2
San Diego Air Basin Attainment Classification

Pollutant	Federal Designation	State Designation
O ₃ (1-hour)	Attainment ^a	Nonattainment
O ₃ (8-hour – 1997) (8-hour – 2008)	Attainment (maintenance) Nonattainment (moderate)	Nonattainment
NO ₂	Unclassifiable/attainment	Attainment
CO	Attainment (maintenance)	Attainment
SO ₂	Not designated ^b	Attainment
PM ₁₀	Unclassifiable/attainment	Nonattainment
PM _{2.5}	Unclassifiable/attainment	Nonattainment
Lead	Unclassifiable/attainment	Attainment
Sulfates	No federal standard	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2016b (federal); CARB 2016a (state).

Notes: O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter.

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.

^a The federal 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 (SIPs).

^b Federal designations for SO₂ are on hold by EPA; EPA expects to make the designations by December 2017 (EPA 2016c).

In summary, the SDAB is designated as a nonattainment area for the 2008 8-hour O₃ NAAQS. The SDAB is designated as a nonattainment area for O₃, PM₁₀, and PM_{2.5} CAAQS. The portion of the SDAB where the project site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS (Appendix C).

Local

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. The SDAPCD monitors air quality conditions at 11 locations throughout the SDAB. Escondido – East Valley Parkway monitoring station ceased to collect data post-2015; thus, due to proximity to the site and similar geographic and climactic characteristics, the El Cajon-Lexington Elementary School and El Cajon-Floyd Smith Drive monitoring station concentrations for all pollutants are considered most representative of the project site. Data for this site was available for 8-hour O₃, 1-hour O₃, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} concentrations. Ambient concentrations of pollutants from 2015 through 2017 are presented in Table 3.2-3. The state 8-hour O₃ standards were exceeded in 2016 and 2017. Air quality within the project region was in compliance with both the CAAQS and NAAQS for NO₂, CO, SO₂, and PM₁₀ (NAAQS only) during this monitoring period (Appendix C).

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		
				2015	2016	2017	2015	2016	2017
Ozone (O ₃) – El Cajon									
Maximum 1-hour concentration	ppm	State	0.12	0.082	0.096	0.096	0	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.067	0.077	0.081	0	3	9
		Federal	0.070	0.067	0.077	0.081	0	3	9
Nitrogen Dioxide (NO ₂) – El Cajon									
Maximum 1-hour concentration	ppm	State	0.18	0.059	0.057	0.044	0	0	0
		Federal	0.100	0.059	0.057	0.044	0	0	0
Annual concentration	ppm	State	0.030	0.011	0.009	0.010	—	—	—
		Federal	0.053	0.011	0.009	0.010	—	—	—
Carbon Monoxide (CO) – El Cajon									
Maximum 1-hour concentration	ppm	State	20	1.4	1.7	2.0	0	0	0
		Federal	35	1.4	1.7	2.0	0	0	0
Maximum 8-hour concentration	ppm	State	9.0	1.1	1.3	1.4	0	0	0
		Federal	9	1.1	1.3	1.4	0	0	0

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		
				2015	2016	2017	2015	2016	2017
Sulfur Dioxide (SO ₂) – El Cajon									
Maximum 1-hour concentration	ppm	Federal	0.075	0.012	0.018	0.011	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.004	0.005	0.004	0	0	0
Annual concentration	ppm	Federal	0.030	0.00011	0.0011	0.00011	—	—	—
Coarse Particulate Matter (PM ₁₀) ^a – El Cajon									
Maximum 24-hour concentration	µg/m ³	State	50	48.0	39.0	50.0	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	150	48.0	39.0	50.0	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m ³	State	20	ND	ND	ND	—	—	—
Fine Particulate Matter (PM _{2.5}) ^a – El Cajon									
Maximum 24-hour concentration	µg/m ³	Federal	35	24.7	19.3	31.8	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m ³	State	12	8.2	7.4	9.6	—	—	—
		Federal	12.0	8.2	7.4	9.6	—	—	—

Sources: CARB 2016b; EPA 2016b.

Notes: ppm = parts per million by volume; ND = insufficient data available to determine the value; — = not available; µg/m³ = 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 PM₁₀ 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 PM₁₀, or 24-hour SO₂, nor is there a state 24-hour standard for PM_{2.5}.

The El Cajon-Floyd Smith Drive monitoring station is located at 10537 Floyd Smith Drive, El Cajon, California.

The El Cajon-Lexington Elementary School monitoring station is located at 533 First Street, El Cajon, California.

2017 data have not been released for the El Cajon-Floyd Smith Drive monitoring station; therefore, 2017 data were obtained from the El Cajon-Lexington Elementary School.

^a Measurements of PM₁₀ 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.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors include residences, schools, playgrounds, childcare

centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest existing sensitive receptors include single-family residents across Poco Grande Vista Road to the west side of the project site and directly adjacent to the project on the north side.

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 federal and state 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 O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following text.¹ In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors, such as hydrocarbons and NO_x. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ozone). O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ 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. These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ 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 VOCs, in the atmospheric reactions that produce O₃. 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

¹ The descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's (EPA's) "Criteria Air Pollutants" (EPA 2016a) and CARB's "Glossary of Air Pollution Terms" (CARB 2014).

terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

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 non-reactive 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, 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. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished lung function in children. When combined with particulate matter, SO₂ can injure lung tissue and reduce visibility and the level of sunlight. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles, which can include smoke, soot, dust, salts, acids, and metals, floating in the air. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. PM_{2.5} (fine particulate matter) 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. PM₁₀ (respirable particulate matter, or coarse particulate matter), is about 1/7 the thickness of a human hair. Major sources of PM₁₀ 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} and PM₁₀ 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 PM₁₀ 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 PM₁₀ 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, as well as producing haze and reducing regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM₁₀ and PM_{2.5}. Other groups considered sensitive are smokers, people who cannot breathe well through their noses, and exercising athletes (because many breathe through their mouths).

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.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon, and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are 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 O₃ 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 health 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 noncancer 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 noncarcinogenic effects. Noncarcinogenic 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.

CARB classified “particulate emissions from diesel-fueled engines” (i.e., diesel particulate matter [DPM]) as a TAC in August 1998. 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. DPM is emitted from a broad range of diesel engines: on-road diesel engines of 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 diesel particulate matter, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

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. Valley Fever is not considered highly endemic to San Diego. Per the San Diego County Health and Human Services Agency, the 10-year average (2008–2017) for Coccidioidomycosis cases in the County of San Diego is 4.5 cases per 100,000 people per year. The project area is wholly contained within the 92078 zip code. For the 92078 zip code, there were 10 cases of Coccidioidomycosis between 2008 and 2017, which is equivalent to a rate of 2.3 cases per 100,000 people (Nelson 2018). Statewide incidences in 2016 were 13.7 per 100,000 people (CDPH 2017; Appendix C).

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 (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. Environmental Protection Agency is responsible for implementing most aspects of the Clean Air Act, including setting National ambient air quality standards (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 O₃ protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the criteria pollutants O₃, CO, NO₂, SO₂, PM₁₀, 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 O₃, NO₂, SO₂, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O₃, NO₂, SO₂, PM₁₀, 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.

State

California Ambient Air Quality Standards

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.

The CARB has established California ambient air quality standards (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 O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and PM_{2.5} and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. Additionally, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants in California. 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/m ³)	—	Same as primary standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	—	
PM _{2.5} ⁱ	24 hours	—	35 µg/m ³	Same as primary standard

Table 3.2-4
Ambient Air Quality Standards

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

Source: CARB 2016a.

Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; O₃ = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NO₂ = nitrogen dioxide; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; SO₂ = sulfur dioxide; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter.

^a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter—PM₁₀, 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 O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O₃ 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 PM₁₀, 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 O₃ 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 SO₂ 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 SO₂ 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 PM₁₀ 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 (CCAA), 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.”

Local

San Diego Air Pollution Control District

Although CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project is located within the SDAB and is subject to SDAPCD guidelines and regulations. In San Diego County, O₃ and particulate matter are the pollutants of main concern, because exceedances of the CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ (1-hour and 8-hour) standards. The SDAB is also designated as a federal O₃ maintenance attainment area for the 1997 8-hour NAAQS and a marginal nonattainment area for the 2008 8-hour NAAQS for O₃.

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). The RAQS outlines SDAPCD’s plans and control measures designed to attain the CAAQS for O₃. 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 the County, to project future emissions and then determine from that 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.

The 8-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O₃ standard by 2018 (SDAPCD 2016). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O₃ standard. The RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS. In response to court decisions, some elements in the 8-hour Ozone Attainment Plan for San Diego County required updates. CARB staff prepared the 2018 Updates to the California State Implementation Plan to update SIP elements for nonattainment areas throughout the state as needed. The applicable attainment date for San Diego County is in 2021.

In December 2005, SDAPCD prepared a report titled “Measures to Reduce Particulate Matter in San Diego County” to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM₁₀ and PM_{2.5}). In the report, SDAPCD evaluates the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion.

As stated previously, SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations would apply to the project:

- **SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources.** Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, SO_x, or PM₁₀ to be equipped with best available control technology (BACT). For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 1998).
- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by

the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (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 2009).
- **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 2015).

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

- **Goal LU-2:** Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
 - **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.

Conservation and Open Space Element

- **Goal COS-4:** Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.
 - **Policy COS-4.1:** Continue to work with the U.S. EPA, CARB, SANDAG, and the SDAPCD to meet State and federal ambient air quality standards.
 - **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.

Mobility Element

- **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 (City of San Marcos 2012).

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

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 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.

3.2 Air Quality

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 pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. As part of its air quality permitting process, SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 3.2-5 are exceeded.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality.

The thresholds listed in Table 3.2-5 represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. 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. 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
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (Pounds per Day)		
Respirable particulate matter (PM ₁₀)	100		
Fine particulate matter (PM _{2.5})	55		
Oxides of nitrogen (NO _x)	250		
Sulfur oxides (SO _x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOC)	137 ^a		
Operational Emissions			
Pollutant	Total Emissions		
	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)	—	137 ^a	13.7

Source: SDAPCD Rules 1501 and 20.2(d)(2).Appendix C.

^a VOC threshold based on South Coast Air Quality Management District (SCAQMD) levels per the SCAQMD and the Monterey Bay Air Pollution Control District, which have similar federal and state attainment status to San Diego.

Impact Analysis Approach and Methodology

Construction

Emissions from construction of the project were estimated using the California Emissions Estimator Model (CalEEMod)² Version 2016.3.2. For purposes of estimating project emissions, and based on information provided by the applicant and CalEEMod default values, it was estimated that construction of the project would commence in March 2020 and would last approximately 21 months, ending in December 2021. The analysis contained herein is based on the following parameters (duration of phases is approximate):

- Site preparation – 10 days (March 2020–April 2020)
- Grading – 106 days (March 2020–August 2020)
- Building construction – 327 days (October 2020–December 2021)
- Paving – 88 days (July 2020–October 2020)
- Architectural coating – 135 days (June 2021–December 2021)

The construction equipment mix used for estimating the construction emissions of the project is based on CalEEMod default data, which is outlined in Appendix C. For this analysis, it was estimated that heavy construction equipment would operate 5 days a week during project construction.

Construction-worker and vendor estimates by construction phase were generated by CalEEMod. Based on the project's grading plans, it was estimated that approximately 78,800 cubic yards of cut and fill would be balanced on site; however, for the purposes of modeling, it was conservatively estimated that 10,000 cubic yards of soil would be exported off site in trucks with a capacity of 16 cubic yards, thus, 625 one-way trips were estimated. Additionally, based on the project's grading plans, it was estimated that 1,000 cubic yards of vegetation and soil from site clearing would be exported in trucks with a capacity of 8 cubic yards; therefore, 125 one-way trips were modeled.

Blasting

Blasting operations would be required for site preparation. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)–based blends due to their lower cost compared to dynamite.

² CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria air pollutant and GHG emissions from a variety of land use projects.

It is anticipated that blasting operations would occur during the grading phase. An average of one ton of ANFO would be applied per blast; 2,000 cubic yards of rock would be blasted per blast and 20,000 total cubic yards of rock would be blasted for the project; and a maximum of 2 blasts per day and 10 total blasts for the project.

Rock Crushing

In addition to blasting emissions, emissions associated with rock crushing were quantified in a separate calculation, since CalEEMod does not account for rock crushing. Emissions factors were obtained from AP-42, Section 11.9.2 – Crushed Stone Processing and Pulverized Mineral Processing (EPA 2004; Appendix C). Approximately 30,000 tons of rock would be processed; the rock processing rate would be 750 tons of rock per day; and the total operating days would be 40 days.

The rock-crushing equipment was assumed to consist of a crusher, screen, and conveyor, and the crushed rock would be stockpiled for future use. Although a single primary crusher and screen may be all that is required, use of a secondary crusher and additional screen would expedite this process. To generate a conservative emissions estimate, it was assumed that a feed hopper, primary and secondary crushers, two screens, and several conveyors for transfers would be used. Particulate emissions from the crushers, screens, and conveyors would be controlled with water sprays.

It is expected that the rock-crushing equipment would be powered by a diesel-engine generator. It was assumed that the engine generator would be rated at 350 horsepower. The engine generator would operate up to 4 hours per day. The VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from the diesel-engine generator were estimated using the off-road-engine load factor and emissions factors from the CalEEMod User's Guide for a typical generator operating in 2020 (the first year of construction). Blasting and rock-crushing emissions calculations are provided in Appendix C.

Off-site Improvements

Blasting

As described in Section 2.2.2.5, Off-site Improvements, of the Project Description, Sewer Option #2 would require blasting. It is anticipated that Sewer Option #2 blasting operations would occur during the grading phase. Blasting emissions are quantified using AP-42, Section 13.3 – Explosives Detonation (EPA 1980) and AP-42, Section 11.9 – Western Surface Coal Mining (EPA 1998).

Based on data provided by the applicant, an average of one ton of ANFO would be applied per blast; 50 cubic yards of rock would be blasted per blast and 165 total cubic yards of rock would be blasted for the project; and a maximum of 3 blasts per day and 11 total blasts for the project.

Rock Crushing

Rock crushing would be required for Sewer Option #2, occurring in the grading phase. The same rock-crushing equipment described above would be used for the Sewer Option #2 construction. As described above, emissions factors were obtained from AP-42, Section 11.9.2 – Crushed Stone Processing and Pulverized Mineral Processing (EPA 2004). For transfers to the feed hopper and stockpiles, the “drop” equation in Section 13.2.4 (Aggregate Handling and Storage Piles) of AP-42 (EPA 2006) was used to derive an emissions factor. Based on data provided by the applicant, 200 tons of rock would be processed; the rock processing rate would be 15 tons of rock per day; and the total operating days would be 13 days.

The diesel-engine generator would operate up to 4 hours per day. The same off-road-engine load factor and emissions factors from the CalEEMod User’s Guide for a typical generator operating in 2020 (the first year of construction) as described above is used for the emission estimates.

Haul Truck Trips

It was estimated that 70 one-way haul truck trips would be required to remove blasting materials off-site. Blasting, rock-crushing, and haul truck trip emissions calculations for Sewer Option #2 are provided in Appendix C.

Operation

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

Area Sources

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

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emission factor, the building

square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and SDAPCD's Rule 67.0.1 (Architectural Coatings) governs the VOC content for interior and exterior coatings (Appendix C).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. Emissions associated with potential landscape maintenance equipment were included to conservatively capture potential project operational emission sources. No hearths or woodstoves would be included in the project design; therefore, they were not included in the CalEEMod analysis.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off-site. Therefore, for the purposes of the air quality analysis, the energy source parameters focus on criteria air pollutants generated as a result of natural gas consumption within the built environment. Natural gas consumption is attributed to systems like heating, ventilation, and air conditioning and water heating.

Mobile Sources (Motor Vehicles)

Mobile sources for the project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on the project-specific traffic report prepared for the project by Linscott, Law & Greenspan, Engineers, the proposed residential development is anticipated to generate eight trips per dwelling unit (Appendix J; Appendix C), which was assumed for the weekday trip rate. A 5% reduction for proximity to high quality, multimodal Nordahl Station and the Class I Inland Rail Trail bikeway was applied. The California Air Pollution Control Officers Association (CAPCOA) has developed methodologies for quantifying the emission reductions associated with numerous mitigation measures (Appendix C). Several of the measures would also reduce air pollutant emissions that are related to land use and transportation planning. These measures would reduce vehicle trips and/or trip lengths, enhance walking and bicycles as alternative modes of transportation, enhance availability of transit, and incorporate other approaches. Regarding mobile source emission reduction features relating to land use, it was assumed that the project would involve an increase in access to transit. The project is approximately 0.6 miles from the Sprinter station, which provides light rail access into the nearby cities of Escondido, Vista, and Oceanside.

Additionally, the Sprinter connects to the Surfliner and Coaster routes, which provide north-south access to Los Angeles County, Orange County, and the City of San Diego. Providing non-motorized access to multiple job centers through quality transit would reduce the project's vehicle miles traveled and is included in the CalEEMod vehicle trip estimates (Appendix C). The project would be providing connectivity by extending the sidewalk to neighboring community and the Sprinter station.

Accordingly, the 192 dwelling units would generate approximately 1,536 trips per day during the week. Because the default CalEEMod weekday trip rates for multifamily homes differed from the assumed project trip rate, the project weekend trip rates were adjusted. Furthermore, SANDAG's average trip length of 7.9 miles for residential was used for the analysis (SANDAG 2002). CalEEMod default data, including trip characteristics, variable start information, emissions factors, were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.³ Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full buildout of the project.

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, 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 State Implementation Plan (SIP) and RAQS⁴. SANDAG is responsible for developing forecasts and data that are used by SDAPCD in preparing the SIP and RAQS. The federal O₃ 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 was initially adopted in 1991 and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O₃. 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

³ Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix (vehicle class distribution including automobiles, trucks, buses, motorcycles) provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC Version 2014, was applied.

⁴ 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.

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. A General Plan Amendment (GPA) is required to re-designate the southern parcel of the project site (APN 228-312-10) from Semi-Rural Residential (SR-1) (as currently designated by the County of San Diego) and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a GPA is required to re-designate the northern parcel of the project site (APN 228-312-09) from Low Density Residential (LDR) to SPA.

Based on the existing land use designations of LI, CalEEMod Version 2016.3.2 default trip rates, maximum floor area ratio of 0.6 for the LI land use on the 10.8-acre lot, the existing LI land use (which provides for loading, deliveries, warehousing, and office spaces) would generate 5,740,917 vehicle miles traveled (VMT) annually. The existing LDR land use designation would generate 1,013,859 VMT annually. Thus, the total existing land use would generate 6,754,776 VMT annually. The project's proposed 192 residential units would generate 3,471,675 VMT annually. As a result, the project would generate fewer trips and fewer VMT (and associated emissions) than that allowed under the existing land use for the project site. Refer to Appendix C for details regarding the CalEEMod trip rates, as well as Appendix J for a trip comparison of the different land use types.

The City projects an increase of 3,170 housing units and an increase of 10,180 persons between 2020 and 2035 (SANDAG 2013). The project would account for 6% of the projected housing units and 6% of the population projected to increase in the City between 2020 and 2035 in the SANDAG Series 13 forecast. The project's proposed growth would be within the growth projections for the City. Thus, the project would result in regional growth that is accounted for within the RAQS and at a regional level, it is consistent with the underlying growth forecasts in the SIP and RAQS. Therefore, implementation of the proposed project would not conflict with the RAQS or SIP and proposed development would be consistent with the growth in the region. Furthermore, the project is an infill site surrounded by existing development and is linked to the community through a multi-modal transportation system to include roads, alternative transportation, pedestrian, and bicycle mobility options. The project's proximity to Interstate 15 and State Route 78 and the Nordahl North County Transit District (NCTD) transit station

make for an ideal connectivity to a regional transportation network, employment centers, and shopping and services. 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?

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. If the project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3 , PM_{10} , and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin.

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, blasting, rock crushing, off-site improvements, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. 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. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from grading and site preparation activities. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Construction emissions were calculated using CalEEMod 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 (2020 through 2021). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the applicant and is intended to represent a reasonable scenario based on the best information available. A detailed depiction of the construction schedule—including information regarding phasing, equipment utilized during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix C. The information contained in Appendix A (CalEEMod Output Files) of Appendix C was used as CalEEMod inputs.

Implementation of the project would generate temporary air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. The project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. The SDAPCD is responsible for enforcing compliance with Rule 55. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction of particulate matter. Compliance with Rule 55 would be required as a standard condition of project approval or for issuance of a grading permit.

Exhaust from internal combustion engines used by construction equipment, hauling trucks (dump trucks), vendor trucks (delivery trucks), and worker vehicles would result in temporary emissions of NO_x, VOC, CO, SO_x, PM₁₀, and PM_{2.5}. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SDAPCD Rule 67.0.1, Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015). The project would comply with SDAPCD Rule 67.0.1 through the incorporation of low-VOC architectural coatings. The VOC content assumed for the analysis includes 50 g/L for interior coatings and 100 g/L for exterior coatings.

Table 3.2-6 shows the estimated maximum daily construction emissions associated with the construction of the project. For details regarding the emissions calculations, see CalEEMod Output Files, provided in Appendix C of this EIR.

Table 3.2-6
Estimated Maximum Daily Construction Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>Pounds per Day</i>					
2020 (Construction)	6.95	63.78	197.14	4.13	8.95	4.41
2020 (Sewer Option #2)	0.31	55.12	203.34	6.01	0.16	0.12
2020 Total	7.26	118.90	400.48	10.14	9.12	4.53
2021 Total	22.50	39.95	46.85	0.09	4.61	2.64
Maximum daily emissions	22.50	118.90	400.48	10.14	9.12	4.53
<i>Emission threshold</i>	75	250	550	250	100	55
Threshold exceeded?	No	No	No	No	No	No

Source: Appendix C.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = 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.

The values shown are the maximum summer or winter daily emissions results from CalEEMod and provided in Appendix C. Blasting and rock crushing was assumed to occur in the grading phase, which includes utility undergrounding (2020). The maximum emissions assumes compliance with SDAPCD Rule 67.0.1, Architectural Coatings, and SDAPCD Rule 55, Fugitive Dust Control. Sewer Option #2 offsite improvements was assumed to occur in the grading phase (2020). Sewer Option #2 construction emissions include blasting, rock crushing, generator, and haul truck trip emissions.

As shown in Table 3.2-6, daily construction emissions would not exceed the significance thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Further, construction would be short term and temporary in nature. Once construction is completed, construction-related emissions would cease.

Following the completion of construction activities, the project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources, including vehicular traffic generated by residents of the project; area sources, including the use of landscaping equipment and consumer products; and from architectural coatings (Appendix C). Table 3.2-7 presents the maximum daily emissions associated with the operation of the project after all construction has been completed. The values shown for motor vehicles and area sources are the maximum summer or winter daily emissions results from CalEEMod.

Table 3.2-7
Estimated Project Maximum Daily Operational Emissions

Emission Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>pounds per day</i>					
Area	7.55	0.18	15.87	0.00	0.09	0.09
Energy	0.05	0.47	0.20	0.00	0.04	0.04
Mobile	2.34	9.56	25.43	0.09	7.64	2.09
Total	9.95	10.21	41.50	0.09	7.76	2.21
<i>Emission threshold</i>	55	250	550	250	100	55
Threshold exceeded?	No	No	No	No	No	No

Source: Appendix C.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = 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.

As shown in Table 3.2-7, the daily operational emissions from the project would not exceed the significance thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Therefore, operational emissions would not cause a significant impact. Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would result in emissions that are accounted for. Projects that conform to the permitted land use, or result in a less emissions-intensive use, and are therefore accounted for in the SIP and RAQS, would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the project would result in fewer emissions than buildout of the existing permitted land use that was anticipated by the RAQS and therefore would not result in significant regional emissions that are not accounted for within the RAQS. As a result, the project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Therefore, the project's cumulative impacts would be less than significant.

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

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 the CARB, include children, the elderly, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest existing sensitive receptors include single-family residents across Grande Vista Road to the west side of the project site and directly adjacent to the project on the north side.

Health Impacts of Criteria Pollutants

As previously discussed, construction and operation of the project would not result in emissions that exceed the SDAPCD significance thresholds for any criteria air pollutants including VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the SDAPCD significance thresholds as shown in Table 3.2-5, San Diego Air Pollution Control District Air Quality Significance Thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, the project would use low-VOC architectural coatings that would comply with SDAPCD Rule 67.0.1, which restricts the VOC content of coatings for both construction and operational applications (SDAPCD 2015). In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as an attainment area for the 1-hour O₃ NAAQS

standard and 1997 8-hour NAAQS standard). The health effects associated with O₃, as discussed in Section 2.2, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ 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 O₃ concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O₃ ambient air quality standards tend to occur between April and October when solar radiation is highest.

Similar to O₃, construction of the project would not exceed the SDAPCD significance thresholds for PM₁₀ or PM_{2.5} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter; refer to Table 3.2-6. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding nitrogen dioxide, according to the construction emissions analysis, construction of the project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. As described in Section 3.2.1, NO₂ and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. 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. Construction of the project would not require any stationary emission sources that would create substantial, localized NO_x impacts. Therefore, health impacts would be considered less than significant.

In summary, construction and operation of the project would not result in exceedances of SDAPCD significance thresholds for criteria pollutants; refer to Tables 3.2-6 and 3.2-7. The VOC and NO_x emissions would minimally contribute to regional O₃ concentrations and the associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. As shown in Table 3.2-3, the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the project's operational NO_x emissions are not expected to result in exceedances of the NO₂ standards or contribute to the associated health effects. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants, and specifically with regard to sensitive receptors, would be considered less than significant.

Health Impacts of Carbon Monoxide

Projects that generate vehicular traffic have the potential to create high concentrations of carbon monoxide (CO) on two scales of motion. Regionally, project-related construction travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, construction traffic would be added to the roadway system in the vicinity of the project site. Although the SDAB is currently an attainment area for CO, there is a potential for the formation of CO “hotspots” to occur immediately around points of congested traffic.

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. CO hotspots are typically evaluated when (1) the level of service (LOS) of an intersection or roadway decreases to LOS E or worse; (2) signalization and/or channelization is added to an intersection; and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment. Additionally, the SDACPD provides an additional screening threshold of 3,000 peak hour trips (SDAPCD 2007).

According to the Transportation Impact Analysis (TIA) prepared by Linscott, Law & Greenspan Engineers (LLG) (Appendix J), the results of the LOS assessment show that under Existing Plus Project conditions, two key study intersections (Rancheros Drive/SR-78 westbound ramp and Mission Road/Nordahl Road) are forecast to operate at LOS E or worse during the peak hours with a volume of over 3,000 trips. The potential impact of the project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4) (Caltrans 1998).

The SCAQMD guidance recommends using the highest 1-hour measurement in the last 3 years as the projected future 1-hour CO background concentration for the analysis. A CO concentration of 3.8 parts per million by volume (ppm) was recorded in 2014 for the Escondido monitoring station in San Diego and was assumed in the CALINE4 model for 2021 (EPA 2016b). To estimate an 8-hour average CO concentration, a persistence factor of 0.69, as calculated based on SCAQMD guidance (SCAQMD 1993), was applied to the output values of predicted concentrations in ppm at each of the receptor locations.

Using this method, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 4.1 ppm, which is below the 1-hour CO CAAQS of 20 ppm (CARB 2014). The maximum predicted 8-hour CO concentration of 2.84 ppm at the studied intersections would be below the 8 hour CO CAAQS of 9.0 ppm (CARB 2016b). Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Accordingly, the project would not result in any violations of the CAAQS or any other air quality standard. CO tends to be a localized impact associated with congested intersections. Thus, the project’s CO emissions would not contribute to significant health effects associated with this pollutant. As such, impacts with regard to potential CO hotspots resulting from project contribution to cumulative traffic-related air quality impacts would be less than significant.

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-duty equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. State law also recommends various measures to reduce particulate matter emissions, such as Title 13 California Code of Regulations, Chapter 9, Section 2449, aimed to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles; and Title 13, Section 2485 of the California Code of Regulations, which limits engine idling time.

During construction of the project, DPM emissions from heavy-duty equipment operations and heavy-duty trucks would be the greatest potential for TAC emissions. As shown in Table 3.2-6, Estimated Maximum Daily Construction Emissions, maximum daily particulate matter (PM₁₀ or PM_{2.5}) emissions generated by construction equipment operation and haul-truck trips (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be below the SDAPCD significance thresholds. Moreover, total construction of the project would last less than 2 years, after which project-related TAC emissions would cease. Thus, the project would not result in a long-term source of TAC emissions. No residual TAC emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. No emissions for criteria pollutants exceed the SDAPCD significance thresholds. A wind rose is provided on Figure 3.2-1 for the Escondido meteorological station (station ID 53120) located in the City of San Marcos. The closest sensitive receptors are located to the west and north of the project site; however, the wind rose shows that the wind would blow from the west to the east in the opposite direction. Therefore, the exposure of project-related TAC emission impacts to sensitive receptors would be less than significant because the construction of the project would be short-term and cease upon completion, the wind rose shows the wind direction would blow from west to east in the opposite direction of the sensitive receptors, the project construction emissions would not exceed the SDAPCD significance thresholds, and operation of the project would not result in long-term sources of TAC emissions. The project would also not result in substantial DPM emissions during construction and operation and therefore, would not result in significant health effects related to DPM exposure.

Further, CARB recommends that sensitive receptors not be located downwind or in proximity to certain types of facilities or sources that may emit substantial quantities of TACs, including but not limited to high-traffic freeways and roads (CARB 2005). While the project is located near high-traffic roadways

(Interstate 15 and SR-78), the project site is beyond the 1,000-foot siting distance as recommended by CARB. Therefore, the project would not expose residents to TAC emissions from the surrounding high-traffic roadways during project operation, and impacts would be less than significant.

Valley Fever Exposure

Valley Fever is not highly endemic to San Diego County, and within San Diego County, the incidence rate in the project area is below the County average and the statewide average. Construction of the project would comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Strategies the project would implement to comply with SDAPCD Rule 55 and control dust include watering three times per day, using magnesium chloride for dust suppression on unpaved roads, and limiting speed on unpaved roads to 15 miles per hour.

Based on the low incidence rate of Coccidioidomycosis in San Diego County, and the requirement that the project implement dust control strategies (required as a standard condition of approval or for grading permit issuance), 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?

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 other emissions (such as those leading to odors, during construction) would be considered less than significant.

Land uses and industrial operations typically associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (CARB 2005). The project does not propose any of these activities. Moreover, typical odors generated from operation of the project would primarily include vehicle exhaust generated by residents, as well as through the periodic use of landscaping or maintenance equipment. Therefore, impacts associated with other emissions (such as those leading to odors), during construction, would be less than significant.

3.2.5 Cumulative Impact Analysis

See Threshold #2 in Section 3.2.4, 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.

Project construction emissions would be temporary and cease upon completion. The daily operational emissions from the project would not exceed the SDAPCD significance thresholds. As described above, the project would result in fewer emissions than buildout of the existing permitted land use that was anticipated by the RAQS and therefore would not result in significant regional emissions that are not accounted for within the RAQS. As a result, the project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Therefore, the project's cumulative impacts would be less than significant.

3.2.6 Mitigation Measures

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

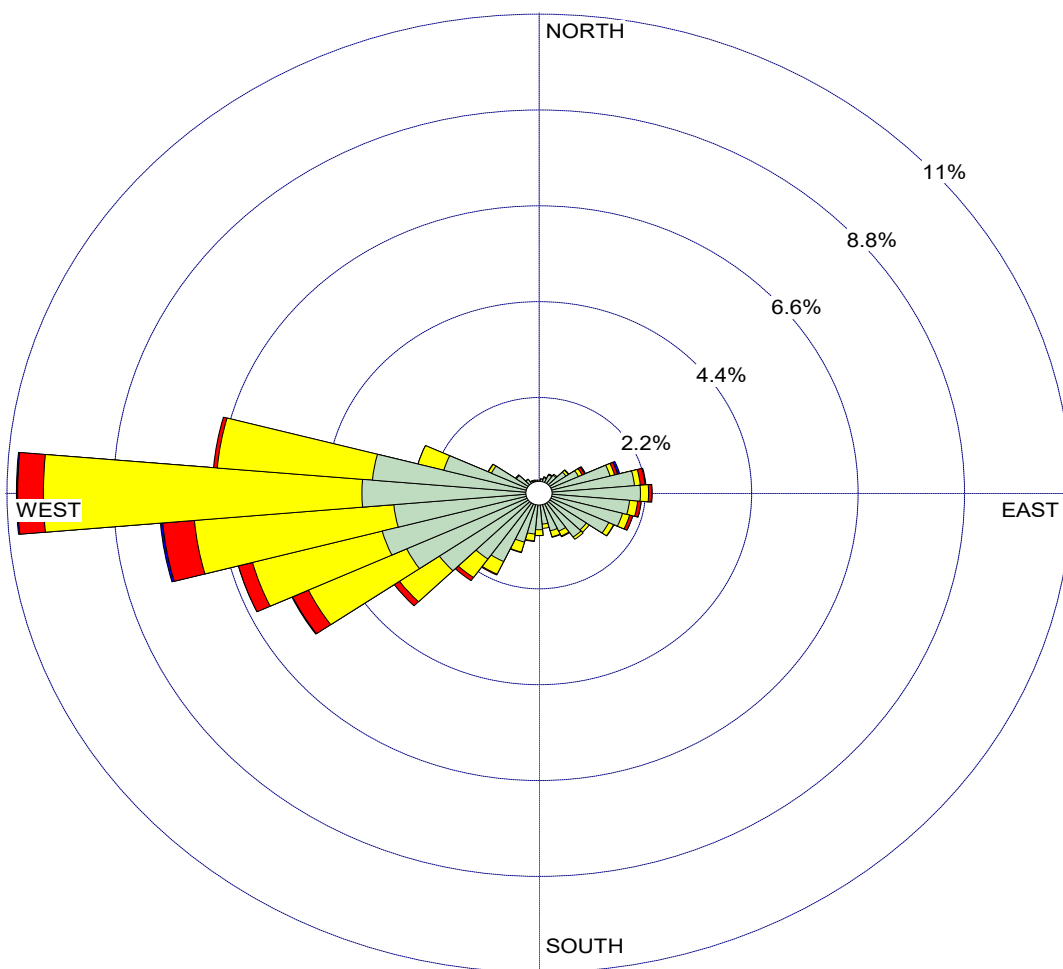
3.2.7 Conclusion

The project does conflict with the existing land use, which does not permit housing within the portion of the project site zoned LI. However, the project's proposed growth would be within the growth projections for the City; thus, the project would result in regional growth that is accounted for within the RAQS. Therefore, at a regional level, it is consistent with the underlying growth forecasts in the SIP and RAQS. Therefore, implementation of the proposed project would not conflict with the RAQS or SIP and proposed development would be consistent with the growth in the region.

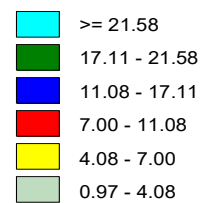
Implementation of the project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation during construction or operation. Additionally, the project would not expose sensitive receptors to substantial pollutant concentrations, nor would it expose a substantial number of people to objectionable odors.

WIND ROSE PLOT:
Station #53120

DISPLAY:
Wind Speed
Direction (blowing from)



**WIND SPEED
(Knots)**



Calms: 23.72%

COMMENTS:

DATA PERIOD:

Start Date: 1/1/2010 - 00:00
End Date: 12/31/2012 - 23:59

COMPANY NAME:

MODELER:

CALM WINDS:

23.72%

TOTAL COUNT:

26298 hrs.

AVG. WIND SPEED:

2.65 Knots

DATE:

6/13/2019

PROJECT NO.:

SOURCE: WRPLOT View - Lakes Environmental Software

FIGURE 3.2-1

Wind Rose of Meteorological Data
Sunrise Specific Plan Environmental Impact Report

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3.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. This section is based on the Draft Biological Resources Technical Report (BTR) prepared by Dudek in August 2019 and is included as Appendix D of 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 Direct 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 Game or U.S. Fish and Wildlife Service.	Potentially Significant	Less than Significant	Less than Significant with MM-BIO-1 through MM-BIO-4
#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 Game or U.S. Fish and Wildlife Service.	Potentially Significant	Less than Significant	Less than Significant with MM-BIO-1
#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.	No Impacts	No Impacts	No Impacts
#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 approximately 14.4-acre project site is composed of two undeveloped lots within the jurisdictions of the City of San Marcos and the County of San Diego. The project site is located approximately 0.25 miles southeast of Highway 78, 1.5 miles east of the California State University San Marcos, and approximately 1.5 miles west of Interstate 15. Specifically, the project site is west of Meyers Avenue/Corporate Drive and south of E. Barham Drive. The site is located on the U.S. Geological Service (USGS) 7.5-Minute San Marcos Quadrangle Map on Section 18, in Township 12 South, Range 2 West of the San Bernardino Base and Meridian. The on-site land use is currently unoccupied and disturbed from previous grading and past agricultural use. The surrounding land uses are primarily residential neighborhoods to the west and commercial development to the east, north, and south. This analysis also considers off-site improvements, which are primarily comprised of access improvements, and total approximately 1.07 acres (refer to Section 2.2.2.5 of this EIR).

To assess biological resources, Dudek conducted a literature review and subsequent reconnaissance-level and focused surveys to determine the presence or potential presence of sensitive biological resources on the project site. Over the course of 8 site visits, Dudek biologists completed reconnaissance-level surveys for sensitive resources, vegetation mapping, focused botanical and rare plant surveys, focused coastal California gnatcatcher surveys, and wetland delineation surveys within the project site to gain a clear understanding of natural resources present and the species with potential to occur based on the habitats present. The entirety of the 15.51-acre project site and off-site areas were included in the biological study area (BSA) (Figure 3.3-1). Each survey included an inventory of the plant and wildlife species encountered, and biologists documented the presence of special-status species. Survey methodologies are detailed in the BTR (Appendix D of this EIR).

To locate and characterize natural vegetation communities, including habitats for special-status species, within the project area, Dudek conducted vegetation mapping. Mapping was performed in the field through interpretation of field maps with high-quality aerial photographic basemap. All plant species encountered during the field surveys were identified to subspecies or variety, if possible. Species that could not be identified in the field were brought into the laboratory for further investigation. During site reconnaissance, biologists identified special-status plant species and performed a subsequent, focused botanical survey for additional mapping. Further, Dudek biologists recorded animal species detected during field surveys by sight, calls, tracks, scat, or other signs. Focused surveys for the coastal California gnatcatcher were also performed in spring 2018 in conformance with the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS) (USFWS 1997).

3.3 Biological Resources

The project area is located within the Carlsbad Hydrologic Unit, which covers approximately 210 square miles (SDRWQCB 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 project area is located within the San Marcos Hydrologic Subarea. Dudek's survey efforts also included a formal wetland delineation in July 2017 to define and characterize the jurisdictional waters present within the BSA.

The project does not fall within the North County Multiple Species Conservation Program (MSCP) or any other approved subarea plan.

3.3.1.1 Vegetation Communities

As described above, to locate and characterize natural vegetation communities, including habitats for special-status species within the project area, Dudek conducted vegetation mapping. Six vegetation communities/land covers were mapped within the BSA, including wild oats grassland, California buckwheat scrub (including Disturbed), black sage scrub, white sage scrub, disturbed habitat, and ornamental. Refer to Table 3.3-2 for on and off site acreages for identified vegetation communities.

Table 3.3-2
Vegetation Communities and Land Covers

Oberbauer General Vegetation Community (Code)	Holland 1986, as modified by Oberbauer 2008	Vegetation/Land Cover Type	Acres	
			On Site	Off Site
Disturbed or developed areas (10000)	11300 Disturbed Habitat	Disturbed habitat ¹	2.94	—
	10000 (not specified in Holland)	Ornamental ¹	—	0.15
Scrub and chaparral (30000)	32500 Diegan Coastal Sage scrub	Black sage scrub	4.52	—
	32800 Flat-topped buckwheat	California buckwheat scrub	0.36	0.02
	32800 Flat-topped buckwheat	Disturbed California buckwheat scrub	1.55	—
	32500 Diegan Coastal Sage scrub	White sage scrub	0.07	—
Grasslands, vernal pools, meadows, and other herb communities (40000)	42200 Non-native grassland	Wild oats grassland ¹	5.00	0.90
Total			14.44	1.07²

Source: Appendix D.

Note:

¹ Dominated by non-native plant species.

² The 1.07 acres off-site is comprised of 0.76 acres for the eastern access road and 0.31 acres for grading associated with the entrance from Meyers Avenue within the City of Escondido.

The majority of the project site is composed of wild oats grassland, which is dominated by non-native, naturalized plant species. However, the southern section of the site contains relatively uninvaded black sage scrub. Native vegetation communities within the project site include 4.52 acres of black sage scrub, 0.38 acres of California buckwheat scrub, 1.55 acres of disturbed California buckwheat scrub, and 0.07 acres of white sage scrub, which is a total of 6.52 acres of coastal sage scrub and its subcategories of habitat. Non-native vegetation communities include 5.90 acres of wild oats grassland (on and off site), 0.15 acres of ornamental vegetation (off site), and 2.94 acres of disturbed habitat comprised of historic/abandoned agricultural (orchard) land uses (Appendix D).

Black Sage Scrub

There are 4.52 acres of black sage scrub on the project site. Black sage scrub is dominated by black sage (*Salvia mellifera*) in the shrub canopy that is less than 6 feet in height and is a subcategory of scrub and chaparral plant community. The shrub canopy is continuous or intermittent with a variable herbaceous layer and seasonal grasses. Black sage scrub communities occur between an elevation of 3 feet and 4,430 feet above mean sea level on dry slopes and alluvial fans (Appendix D).

California Buckwheat Scrub (Including Disturbed Form)

There are 1.93 acres of California buckwheat scrub on the project site, 1.55 acres of which is disturbed. There are also 0.02 acres located off site. California buckwheat scrub is dominated by California buckwheat (*Eriogonum fasciculatum*) in the shrub canopy that is less than 6 feet in height and is a subcategory of scrub and chaparral plant community. The shrub canopy is continuous to intermittent with a variable grassy herbaceous layer. California buckwheat scrub occurs between sea level and 3,900 feet above mean sea level on upland slopes and intermittently flooded washes (Appendix D). Disturbed California buckwheat scrub is also dominated by California buckwheat; however, these areas have been subjected to historic anthropogenic disturbance, which has resulted in lower overall native shrub cover, higher relative non-native species cover, and generally reduced habitat quality.

White Sage Scrub

There are 0.07 acres of White sage scrub located on the project site. White sage scrub is dominated by white sage (*Salvia apiana*) in the shrub canopy that is less than 1.5 feet and 6 feet in height and is a subcategory of scrub and chaparral plant community. The shrub canopy is intermittent to continuous and two tiered with a variable herbaceous layer. White sage scrub occurs between an elevation of 900 feet and 5,250 feet above mean sea level on dry slopes and rarely flooded low-gradient deposits along streams (Appendix D).

Wild Oats Grassland

There are 5 acres of wild oats grassland located on the project site, and 0.9 acres off site. Wild oats grassland is dominated by white oats (slender oat [*Avena barbata*] and/or wild oat [*Avena fatua*]) in the open to continuous herbaceous layer that is less than 4 feet. Wild oats grassland is a subcategory of non-native grassland plant community. Wild oats grassland occurs between 30 feet and 3,900 feet above mean sea level on rangelands and openings in woodlands (Appendix D).

Disturbed Habitat

There are 2.94 acres of disturbed habitat located on the project site, which typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction resulting in the growth of very few native perennials. The disturbed habitat is comprised largely of a prior orchard, and is nearly entirely dominated by non-native annual weedy species. Note that the disturbed habitat was previously mapped as agricultural (orchard) land during initial site surveys; however, since the time of initial surveying and report preparation, on site trees from previous historic agricultural uses have been removed by the property owner in June 2018, separate from the proposed project. Dudek completed a nesting bird survey prior to the orchard tree removals, the results of which were negative.

Ornamental

There are 0.15 acres of ornamental lands located off site. This land cover type is described as an area where non-native ornamental species and landscaping schemes have been installed and maintained. This vegetation community is associated primarily with residential landscaping between urban/developed plots. This land cover supports a myriad of ornamental species in the BSA, including but not limited to jade plant (*Crassula ovata*), ice plant (*Carpobrotus edulis*), and oleander (*Nerium oleander*).

Floral Diversity

A total of 81 vascular plant species, consisting of 43 native species (53%) and 38 non-native species (47%), were recorded within the BSA (Appendix D).

3.3.1.2 Wildlife

The project site supports habitat for a number of upland wildlife species within the native and non-native dominated vegetation communities present on site. A total of 43 wildlife taxa were recorded within the BSA during surveys conducted by Dudek biologists in 2017/2018. Appendix D includes a list of wildlife species observed on the project site.

Invertebrates

The project site provides a variety of microhabitats that invertebrates could use for foraging and reproduction. No focused invertebrate surveys were conducted; however, three species of butterfly were identified during the biological surveys including queen (*Danaus gilippus*), Behr's metalmark (*Apodemia mormo virgulti*), and anise swallowtail (*Papilio zelicaon*).

Amphibians and Reptiles

Amphibians require standing or flowing water for part or all of their life cycles. Ponds, seasonal pools, and drainages provide suitable habitat for common amphibian species. The project site does not contain water features suitable for the aquatic portion of the amphibian life cycle, and no amphibians were observed within the BSA.

Reptiles occur in a variety of habitats. Many species shelter in small burrows, which they use as refuge from extreme temperatures and to avoid predators. Biologists observed two reptile species, western fence lizard (*Sceloporus occidentalis*) and Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), within the BSA during surveys in 2017/2018.

Birds

In total, 36 bird species representing 20 families were observed on site, including species common to grasslands, shrublands, and woodland habitats. Grassland species occurring on site include foraging raptors, such as red-tailed hawk (*Buteo jamaicensis*). Common shrubland species observed on the site include California towhee (*Melospiza crissalis*), spotted towhee (*Pipilo maculatus*), California quail (*Callipepla californica*), California scrub-jay (*Aphelocoma californica*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), and phainopepla (*Phainopepla nitens*). Common woodland species observed on site include great horned owl (*Bubo virginianus*). Several of the bird species observed on site are species that are urban-tolerant or attracted to urban settings, including American crow (*Corvus brachyrhynchos*), white-crowned sparrow (*Zonotrichia leucophrys*), and western kingbird (*Tyrannus verticalis*). See Appendix D for the cumulative list of birds observed on the project site.

Mammals

The project site provides a variety of vegetative communities that common small mammalian species can use as cover and for food gathering, in turn providing a prey base for larger mammals and birds of prey. Biologists observed one native mammal species, woodrat (*Neotoma* sp.), as well as one introduced species, domestic cat (*Felis catus*), during surveys conducted in 2017/2018.

3.3.1.3 Special-Status/Regulated Resources

Special-Status Plant Species

Dudek did not observe special-status plant species within the project site during reconnaissance-level and focused rare plant surveys. Black sage scrub is the vegetation community least invaded by non-native species on the project site and was considered the most likely to contain sensitive species. However, no such species were observed. Further, no sensitive plant species have moderate or high potential to occur within the project site (Appendix D).

Special-Status Wildlife Species

A coastal California gnatcatcher point (California Natural Diversity Database) exists within the black sage scrub mapped on site. A focused survey conducted within suitable coastal California gnatcatcher habitat on the project site failed to detect any coastal California gnatcatcher in 2006 (Cadre Environmental 2006). However, one coastal California gnatcatcher individual was observed during the focused surveys completed by Dudek in 2018. In addition, one special-status reptile, Belding's orange-throated whiptail, was observed during the field surveys. Along with the two special-status species observed during the 2018 surveys, the following five species have moderate to high potential to occur within the project site: red diamondback rattlesnake (*Crotalus ruber*), Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), pallid bat (*Antrozous pallidus*), and northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) (Appendix D). The one federally listed species, coastal California gnatcatcher, is discussed below. The other special-status wildlife species are discussed in Section 3.3.4, Project Impact Analysis.

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened and is a California Species of Special Concern. Coastal California gnatcatcher breeds in lower elevations (less than 500 meters, or 1,640 feet) south and west of the Transverse and Peninsular Ranges (Appendix D). Higher densities of this species occur in coastal San Diego and Orange Counties, and lower densities are found in Los Angeles, inland Orange, western Riverside, southwestern San Bernardino, and inland San Diego Counties (Atwood 1993; Preston et al. 1998). The coastal California gnatcatcher primarily occupies open coastal sage scrub habitat that is dominated by California sagebrush.

The BSA supports suitable habitat for the coastal California gnatcatcher within the black sage, white sage, and California buckwheat vegetation communities present on site. The coastal California gnatcatcher observations in 2018 found a single male individual located within the black sage scrub vegetation community. USFWS occurrence records for this species are also located within the black sage scrub vegetation community. An incidental observation made during the 2017 reconnaissance-level survey found an individual coastal California gnatcatcher on site; however, this area does not

constitute suitable habitat for this species. Coastal California gnatcatcher do not typically occupy black sage- and white sage-dominated vegetation communities; however, because the species was identified within the black sage scrub vegetation, the habitat available within the BSA is determined to support relatively good quality habitat for this species.

Special-Status Vegetation Communities

CDFW rankings of 1, 2, or 3 are considered high priority for inventory or special-status vegetation communities, and impacts to these communities typically require mitigation. Within the project site, one vegetation community, white sage scrub (State Rank 3), is considered special status. In addition, vegetation communities that provide suitable habitat for special-status plant or wildlife species are considered special status in accordance with CEQA Guidelines, Section 15206 (b)(5). In addition to white sage scrub, California buckwheat scrub and black sage scrub would be considered special status due to the presence of coastal California gnatcatcher on site and their potential presence within each of these vegetation community types.

3.3.1.4 Jurisdictional Waters

The results of the literature review indicated that no potential wetland or non-wetland water features were present within the BSA. A subsequent jurisdictional delineation field assessment completed by Dudek in 2017 as part of the overall survey effort concluded that no jurisdictional wetlands or waters were present within the BSA. Prior formal jurisdictional delineations previously referenced that were completed on the adjoining property in 2005 by REC Consultants and in 2007 by Kleinfelder West Inc., did not result in the identification of jurisdictional wetlands or waters within the BSA.

3.3.1.5 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals. They may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

To function effectively, a wildlife corridor must link two or more patches of habitat for which connectivity is desired, and it must be suitable for the focal target species to achieve the desired demographic and genetic exchange between populations. Movement corridors identified within the City are generally composed of relatively narrow riparian corridors including San Marcos Creek, Las Posas Creek, Twin Oaks Valley Creek, Buena Creek, and Agua Hedionda Creek (City of San Marcos 2012). The project site is located a minimum of approximately 2 miles from the nearest identified wildlife corridor. Larger tracts of developed open space within the County are farther to the south and southwest in the vicinity of Mount Whitney, the Olivenhain Reservoir, the Elfin Forest Recreational Preserve, and Lake Hodges, which is presumed to provide the best quality wildlife habitat in the local region that would be used by the majority of the resident and migratory wildlife.

The project site is not expected to provide for wildlife movement or serve as an important habitat linkage, and is not located within a designated Biological Core Linkage Area (BCLA); however, there is potential for some use of the project site by both resident and migratory species due to the presence of limited habitat features, including mature trees, coastal sage scrub vegetation, and open areas for foraging. The project is located within a currently undeveloped parcel that is surrounded by existing, high-density commercial and residential development. Because of regular human activity and considerable vehicle traffic in and surrounding the BSA, predominantly urban-adapted wildlife species are expected to occur in this area, such as raccoons (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and brush rabbits (*Sylvilagus* spp.).

3.3.2 Regulatory Setting

Federal

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 designates threatened and endangered animals and plant species and provides measures for their protection and recovery. Under the ESA, “take” of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. The ESA defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” (16 USC 1531). Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under the ESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. ESA, Sections 7 and 10, provide two pathways for obtaining permission to take listed species.

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 ACOE, 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 lateral limits of ACOE's CWA, Section 404, jurisdiction in non-tidal waters are defined by the ordinary high water mark, unless adjacent wetlands are present. The ordinary high water mark 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 ACOE's jurisdiction extends beyond the ordinary high water mark 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. ACOE 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) (16 USC 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed in 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and includes any part, egg, or nest of such bird (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by USFWS, makes it

unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

State

California Department of Fish and Wildlife

Under Section 1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates activities that will divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., mulefat scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources.

California Endangered Species Act

CDFW administers the California ESA (California Fish and Game Code, 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 California ESA, Section 86, take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” California ESA, 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.”

California ESA, 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 (California Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001).”

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.

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.

City of San Marcos Subarea Plan

The Natural Community Conservation Plan (NCCP) for the City of San Marcos (Subarea Plan) has not been finalized or implemented (SANDAG 2001), 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 General Plan policy to comply with the conservation policies identified in the MHCP through use of the Draft San Marcos Subarea Plan as an implementation tool, including an assessment of designated BCLA or MHCP Focused Planning Area (FPA) in the context of the proposed project.

3.3.3 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 Game 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 Game 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.

3.3.4 Project Impact Analysis

This section defines the types of impacts considered in the BTR included as Appendix D of the EIR to analyze the potential effects of the project on biological resources.

Direct impacts were quantified by overlaying the anticipated limits of grading on the biological resources and quantifying impacts. For this EIR, “direct permanent impacts” refer to the areas where the development, roads, and fuel modification zones are proposed. Direct temporary impacts refer to the areas where grading and temporary construction areas are proposed within the open space; these areas would be restored and are, therefore, considered temporary. Direct impacts were quantified by overlaying the proposed impacts on geographic information system – located biological resources.

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the proposed development, roads, and fuel modification zones. Indirect impacts may affect areas within the defined project site but outside the limits of grading, non-impacted areas, and areas outside the project site, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to trail use and development of the project site. 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.

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 Game or U.S. Fish and Wildlife Service?

Direct Impacts – Vegetation Communities and Land Covers

The project site supports six vegetation communities and/or land cover types (Table 3.3-3). Construction of the project would result in direct impacts to 15.51 acres of vegetation communities and land covers, which compose the BSA, as shown on Figure 3.3-2. Of the total, 6.52 acres of impacts will occur to native dominated vegetation communities, and 8.99 acres of impacts will occur to non-native dominated vegetation communities and land covers.

Table 3.3-3
Direct Permanent Impacts to Vegetation Communities and Land Covers

Oberbauer General Vegetation Community (Code)	Holland 1986, as Modified by Oberbauer 2008	Vegetation/Land Cover Type	On-Site Impacts (Acres)	Off-Site Impacts (Acres)	Total Impacts (Acres)
Disturbed or developed areas (10000)	11300 Disturbed Habitat	Disturbed habitat ¹	2.94	—	2.94
	10000 (not specified in Holland)	Ornamental ¹	—	0.15	0.15
Scrub and chaparral (30000)	32500 Diegan Coastal Sage scrub	Black sage scrub	4.52	—	4.52

Table 3.3-3
Direct Permanent Impacts to Vegetation Communities and Land Covers

Oberbauer General Vegetation Community (Code)	Holland 1986, as Modified by Oberbauer 2008	Vegetation/Land Cover Type	On-Site Impacts (Acres)	Off-Site Impacts (Acres)	Total Impacts (Acres)
	32800 Flat-topped buckwheat	California buckwheat scrub	0.36	0.02	0.38
	32800 Flat-topped buckwheat	Disturbed California buckwheat scrub	1.55	—	1.55
	32500 Diegan Coastal Sage scrub	White sage scrub	0.07	—	0.07
Grasslands, vernal pools, meadows, and other herb communities (40000)	42200 Non-native grassland	Wild oats grassland ¹	5.00	0.90	5.90
Total			14.44	1.07	15.51

Source: Appendix D.

Note:

¹ Dominated by non-native plant species.

As previously mentioned, there are 0.07 acres of white sage scrub located on the project site. White sage scrub is considered special status based on the State Rank. More generally, coastal sage scrub vegetation communities are commonly used by special-status wildlife. Development of the proposed project would permanently remove all 0.07 acres of white sage scrub, all 4.52 acres of black sage scrub, and all 1.93 acres of California buckwheat scrub from the project site. Thus, the removal of these coastal sage scrub vegetation communities, and specifically white sage scrub, would be considered a significant impact (Impact BIO-1).

Impact BIO-1 The project would result in the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub.

Indirect Impacts – Vegetation Communities and Land Covers

Because the entirety of the BSA would be permanently impacts, indirect impacts to vegetation communities are not anticipated to occur within the project site. Indirect impacts may be caused by short-term construction effects to vegetation communities located adjacent to the project site and off-site improvement areas from fugitive dust; runoff; sedimentation; erosion; chemical pollution; and accidental clearing, grading, and trampling. Implementation of standard construction practices, including consistency with the Construction General Permit Order 2009-009-DWQ, would minimize potential indirect impacts to off-site vegetation communities from project construction. Compliance with the Construction General Permit, and preparation of a Stormwater Pollution Prevention Plan, is required for issuance of a grading permit; refer to Section 3.9, Hydrology and Water Quality for additional discussion. Additionally, biofiltration basins would be implemented as part of project

operation to provide combined pollutant control and hydromodification to ensure runoff is treated prior to discharge into natural areas. As discussed in Section 3.9.4, the property owner is required, pursuant to the City's Municipal Code Section 14.15 and the Best Management Practice (BMP) Design Manual, to enter into a stormwater management and discharge control maintenance agreement for the installation and maintenance of permanent BMPs prior to issuance of permits. The biofiltration features will be maintained in perpetuity by the proposed project's Homeowner's Association (HOA). Until the formation of the HOA, the project developer or similar entity shall be responsible for the maintenance. Due to the largely developed condition of the surrounding lands, indirect impacts are anticipated to be minimal and would be considered less than significant.

Direct Impacts – Special-Status Plant Species

There were no special-status plant species observed within the project area during the 2018 focused special-status plant surveys. In addition, no special-status plant species have moderate or high potential to occur on the project site (Appendix D). Therefore, no direct impacts are anticipated.

Indirect Impacts – Special-Status Plant Species

Because the entirety of the BSA will be permanently impacted, indirect impacts to special-status plant species are not anticipated to occur within the project site. Indirect impacts to vegetation communities cited above can also affect special-status plant species that are potentially present adjacent to the project site and off-site improvement areas. However, as described above, these potential impacts are considered less than significant due to the largely developed condition of the surrounding lands and the required implementation of the Construction General Permit Order 2009-009-DWQ.

During operation of the project, indirect impacts to special-status plant species would be similar to indirect impacts to vegetation communities and land cover. As discussed above, implementation of biofiltration basins would ensure runoff is treated prior to discharge into natural areas. Thus, indirect impacts to special-status plant species during operation would be less than significant.

Direct Impacts – Special-Status Wildlife Species

As discussed in Section 3.3.1.3, Special-Status/Regulated Resources, a coastal California gnatcatcher point exists within the black sage scrub mapped on site. During focused surveys conducted by Dudek biologists in 2018, one male coastal California gnatcatcher was observed on the project site. Direct impacts to coastal California gnatcatcher may potentially occur if project activities take place during the breeding season for this species (February 15 – August 31).

During focused surveys conducted by Dudek biologists in 2018, one special-status reptile, Belding's orange-throated whiptail, was observed on the project site. Direct impacts to Belding's orange-throated whiptail may potentially occur during ground-disturbing activities, since this species is presumed to occur within the project site year-round.

In addition to direct impacts to these two observed special-status wildlife species, direct impacts to suitable habitat for these wildlife species, as well as other special-status wildlife species with potential to occur within the project site, could occur during project implementation. Other potential special-status wildlife species include pallid bat, northwestern San Diego pocket mouse, Southern California rufous-crowned sparrow, Cooper's hawk, and red diamondback rattlesnake. Impacts to special-status wildlife species are thus considered potentially significant (Impact BIO-2).

Impact BIO-2 The project would result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, Belding's orange-throated whiptail, and suitable habitat for pallid bat, northwestern San Diego pocket mouse, Southern California rufous-crowned sparrow, Cooper's hawk, and red diamondback rattlesnake.

Indirect Impacts – Special-Status Wildlife Species

Potential indirect impacts to vegetation communities cited above can also affect special-status wildlife species that are potentially present outside of the BSA and adjacent to the project site. However, as described above, these potential impacts are considered less than significant due to the largely developed condition of the surrounding lands, the nearest location of potentially suitable species habitat being at least 800 feet away, and the required implementation of Construction General Permit Order 2009-009-DWQ.

During operation of the project, special-status wildlife species may be indirectly affected during operations of the project by noise and lighting introduced to the site. However, as discussed in Section 3.1.4, as required by Section 20.300.080 of the City's Municipal Code, lighting would be directed downward, and would be limited to not contribute to light pollution. Further, as discussed in Section 3.11.4, noise levels would remain in their existing or expected land use compatibility category under the City's standards and thus a big increase in noise at the site during operations is not anticipated. Lastly, as discussed above, impacts from increased impervious areas, which could introduce pollutants into nearby natural areas, could result in potential impacts to special-status wildlife species, if not treated properly. Nonetheless, with implementation of biofiltration basins as a required component of the project design, impacts would be less than significant.

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 Game or U.S. Fish and Wildlife Service?

Direct Impacts

As discussed under Threshold 1 above, the project site supports six vegetation communities and/or land cover types (Table 3.3-3). Construction of the project would result in direct impacts to 15.51 acres of vegetation communities and land covers, including off-site improvement areas. Of the 15.51

acres of vegetation communities and land covers, development of the proposed project would permanently remove all 0.07 acres of white sage scrub, all 4.52 acres of black sage scrub, and all 1.93 acres of California buckwheat scrub from the project site. Because white sage scrub is considered special status based on the State Rank, and because coastal sage scrub vegetation communities are commonly used by special-status wildlife, direct impacts to sensitive natural communities would be considered potentially significant (Impact BIO-1).

Indirect Impacts

Short-term construction effects to vegetation communities located outside of the BSA and adjacent to the project site may include fugitive dust; runoff; sedimentation; erosion; chemical pollution; and accidental clearing, grading, and trampling. Implementation of standard construction practices, including consistency with the Construction General Permit Order 2009-009-DWQ, minimized indirect impacts to off-site vegetation communities from project implementation. Due to the largely developed condition of the surrounding lands, indirect impacts are anticipated to be minimal and are considered less than significant.

As discussed above, indirect impacts to vegetation communities and land cover could occur during operation of the project, from increased impervious areas, which could introduce pollutants onto nearby undeveloped areas. However, as discussed in Section 3.9, Hydrology and Water Quality, biofiltration basins would be implemented as part of the project to provide combined pollutant control and hydromodification and ensure runoff is treated prior to discharge into natural areas. As such, indirect impacts during operation would be less than significant.

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?

As discussed above in Section 3.3.1.4, Jurisdictional Waters, no potential wetland or non-wetland water features were present within the BSA, based on the results of the literature review conducted by Dudek. Formal jurisdictional delineations were completed on the off-site property in 2005 by REC Consultants and in 2007 by Kleinfelder West Inc., which concluded that jurisdictional waters were present within a portion of the off-site property. However, based on the limits of work, the project would not impact those mapped resources. A formal jurisdictional delineation completed by Dudek in 2017 as part of the overall survey effort concluded that the previously mapped jurisdictional waters continued to persist within the off-site property, though their extent was reduced compared to prior delineation results. The formal jurisdictional delineation completed by Dudek also included the entirety of the land within the project boundary and found that no additional jurisdictional waters were present. Thus, because no jurisdictional waters are present within the project boundary, there would be no impacts to state or federally protected wetlands.

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?

As discussed in Section 3.3.1 above, the project site is bordered by residential and commercial development in all directions, limiting the effectiveness of the site as a wildlife movement corridor. As described in Section 3.3.1.5, Wildlife Corridors and Habitat Linkages, a better quality wildlife movement corridor is present to the south and southwest of the project site, which is presumed to be used by the majority of resident and migratory wildlife species. Although the project site provides some suitable habitat for wildlife species, the utility of this habitat is expected to be low due to the small size and discontinuity with regional open space. Therefore, impacts to wildlife corridors and linkages would not be substantial and would be considered 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 Section 2.2.2.5, the project would require utility work within public streets. However, such construction will be located away from trees and does 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 will 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 does not require the removal of any healthy mature trees. Note, in an action separate from the proposed project, the property owner removed approximately 10 live trees and several dead trees on site from previous historic agricultural uses in June 2018. As shown in Figure 2-5, Conceptual Landscape Plan, numerous additional trees would be incorporated throughout the site with implementation of the project. The landscape plan includes the planting of approximately 448 trees, which exceeds the 1:1 replacement ratio policy identified in Policy COS-2.6. Following approval, the project will be required to conform to the final landscape plan to the satisfaction of the Development Services Department. Further, as discussed in Section 3.10.4, the project would be consistent with the City's General Plan Conservation and Open Space Element. As such, with further communication with the City Manager, as required by the City's Municipal Code, the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. 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?

As described in Chapter 2, Project Description, of this EIR, the project would require zone change approvals from the County of San Diego and the City of San Marcos. The project does not fall within the North County MSCP or any other approved NCCP/habitat conservation plan (HCP) subarea plan; however, as noted in Section 3.3.2 above, it is the City's policy to comply with the conservation policies identified in the Draft San Marcos Subarea Plan. The project is not located within a designated BCLA or FPA, 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 related to the protection of biological resources, as reviewed by the Planning Department during the entitlement process. Following implementation of proposed mitigation measures (refer to Section 3.3.6), the project is expected to be found to be in conformance with the Draft San Marcos Subarea Plan and the City's General Plan. Since the project would not conflict with any approved local, regional, or state habitat conservation plans, impacts would be considered less than significant.

3.3.5 Cumulative Impact Analysis

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 sage scrub, special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for species that have the potential to occur within the project site. The project does not fall within the North County MSCP or any other approved NCCP/HCP subarea plan, which plans for regional biological resource protection and conservation.

The project would directly contribute to the cumulative loss of coastal sage scrub vegetation communities in the region, including the loss of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub. As mentioned, these vegetation communities are also suitable habitat for several special-status wildlife species, including the coastal California gnatcatcher. These impacts would be considered significant prior to mitigation. Included in mitigation measure MM-BIO-1 as compensation for impacts to special-status vegetation communities, the project would be required to provide off-site compensatory mitigation lands through the purchase of credits in an approved mitigation or conservation bank, in-lieu fee program, or permittee responsible mitigation, as determined to be appropriate following consultation with the resource agencies. Mitigation ratios are presented below in Table 3.3-4. Further, with the implementation of mitigation measures MM-BIO-1 through MM-BIO-4, as identified below, the project would reduce project-related impacts to a level below significance.

Of the cumulative projects identified in Table 2-3, the following projects were identified as having impacts to coastal sage scrub: Valiano (1.8 acres) and Harmony Grove Village South (10.4 acres). These projects would be required to mitigate their individual impacts to coastal sage scrub vegetation communities through either on-site preservation/restoration or off-site habitat acquisition, typically at a 2:1 ratio. Thus, because the proposed project and cumulative projects would be required to mitigate for habitat loss, impacts related to the loss of sensitive vegetation communities, and specifically coastal sage scrub, would not be cumulatively considerable.

The Harmony Grove South project would also directly impact a single, breeding pair of coastal California gnatcatchers and associated suitable habitat. Similar to the proposed project, Harmony Grove South would be required to mitigate impacts by avoiding the grading or clearing of suitable habitat for coastal California gnatcatcher during breeding season, or by conducting pre-construction surveys to avoid sensitive species if construction would occur during breeding season. However, through the implementation of required mitigation, impacts to coastal California gnatcatcher and other potentially present sensitive wildlife species would be reduced to a level below significance for the proposed project and for cumulative projects. Thus, cumulative impacts with regard to special-status wildlife species would not be cumulatively considerable.

It is presumed that all reasonably foreseeable cumulative projects, including those described in Table 2-3, and discussed above, 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. Therefore, it is assumed that impacts on a regional basis would be assessed 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. Thus, project impacts to biological resources would not be cumulatively considerable.

3.3.6 Mitigation Measures

Impacts to Vegetation Communities

The project would result in the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub. Thus, impacts to sensitive vegetation communities would be considered potentially significant, absent mitigation. However, impacts would be reduced to less than significant by implementing the following proposed mitigation measures:

- | | |
|-----------------|--|
| MM-BIO-1 | As compensation for direct impacts to special-status vegetation communities, the applicant shall be required to purchase off-site compensatory mitigation lands acceptable to the City and regulatory agencies. On-site mitigation is not possible due to the proposed development of the entire project boundary and off-site area. The compensatory mitigation lands shall be secured through on-site preservation, off-site acquisition, in lieu fees, a purchase of credits from |
|-----------------|--|

3.3 Biological Resources

an approved mitigation bank, or a combination thereof, compliant with the City's Draft Subarea Plan, as determined to be appropriate following consultation with the City and resource agencies. Compliance with this measure would occur prior to issuance of a grading permit. Compensatory mitigation shall be provided at the ratios presented in the following table, which conform to the mitigation required for impacts to coastal sage scrub habitat occupied by coastal California gnatcatcher in the Draft San Marcos Subarea Plan.

Table 3.3-4
Proposed Mitigation for Impacts to Vegetation Communities and Land Covers

Oberbauer General Vegetation Community (Code)	Holland 1986, as Modified by Oberbauer 2008	Vegetation/Land Cover Type	Total Impact (Acres)	Mitigation Ratio	Total Mitigation (Acres)
Disturbed or developed areas (10000)	11300 Disturbed Habitat	Disturbed habitat ¹	2.94	NA	0
	10000 (not specified in Holland)	Ornamental ¹	0.15	NA	0
Scrub and chaparral (30000)	32500 Diegan Coastal Sage scrub	Black sage scrub	4.52	2:1	9.04
	32800 Flat-topped buckwheat	California buckwheat scrub	0.38	2:1	0.76
	32800 Flat-topped buckwheat	Disturbed California buckwheat scrub	1.55	2:1	3.10
	32500 Diegan Coastal Sage scrub	White sage scrub	0.07	2:1	0.14
Grasslands, vernal pools, meadows, and other herb communities (40000)	42200 Non-native grassland	Wild oats grassland ¹	5.90	NA	0
Total			15.51	—	13.04

Note: NA = Not applicable

¹ Dominated by non-native plant species.

Impacts to Wildlife Species

The project would result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species. Therefore, impacts to special-studies wildlife species would be considered potentially significant, absent mitigation. However, impacts would be reduced to less than significant by implementing mitigation measure **MM-BIO-1** and the following proposed mitigation measures:

MM-BIO-2 Pre-construction educational meetings, construction-limit staking at the edge of the disturbance area, and biological monitoring during vegetation clearing and grading activities shall occur. Construction/contractor personnel shall complete a Workers Environmental Awareness Program to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring shall prevent inadvertent impacts on special-status wildlife species and their habitat.

MM-BIO-3 Suitable habitat for coastal California gnatcatcher shall not be cleared between February 15 and August 31 (or sooner if a biologist demonstrates to the satisfaction of the USFWS that all nesting is complete). Prior to the initiation of vegetation clearing activities outside of the nesting season, a biologist shall perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatchers in the project impact footprint. Surveys shall begin a maximum of 7 days prior to performing vegetation clearing/grubbing and one survey shall be conducted the day immediately prior to the initiation of clearing/grubbing. If any gnatcatchers are found within the project impact footprint, the biologist shall direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It shall be the responsibility of the biologist to ensure that gnatcatchers are not in the vegetation to be cleared/grubbed by flushing individual birds away from clearing/grubbing. The biologist shall also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing.

MM-BIO-4 **Nesting Bird Survey:** If construction activity, including the clearing of vegetation, occurs during the coastal California gnatcatcher breeding season (typically February 15 through August 31), a biologist shall perform a minimum of three focused surveys, on separate days, to determine the presence of California gnatcatcher nest building activities, egg incubation activities, or brood rearing activities in or within 500 feet of these areas. The surveys shall begin a maximum of 7 days prior to project construction and one survey shall be conducted the day immediately prior to the initiation of work. Additional surveys shall be done once a week during project construction in the breeding season. These additional surveys may be suspended as approved by the USFWS. The Permittee will notify the USFWS at least 7 days prior to the initiation of surveys and within 24 hours of locating any California gnatcatchers.

If a California gnatcatcher nest is found in or within 500 feet of project construction, the biologist will postpone work within 500 feet of the nest and contact the USFWS to discuss: (i) the best approach to avoid/minimize impacts to nesting birds (e.g., sound walls); and (ii) a nest monitoring program acceptable to the USFWS. Subsequent to these discussions, work may be initiated subject to implementation of the agreed upon avoidance/minimization approach and nest monitoring program. Nest success or failure will be established by regular and frequent trips to the site, as determined by the

biologist and through a schedule approved by the USFWS. The biologist will determine whether bird activity is being disrupted. If the biologist determines that bird activity is being disrupted, the Permittee will stop work and coordinate with the USFWS to review the avoidance/minimization approach. Coordination between the Permittee and Service to review the avoidance/minimization approach will occur within 48 hours. Upon agreement as to the necessary revisions to the avoidance/minimization approach, work may resume subject to the revisions and continued nest monitoring. Nest monitoring will continue until fledglings have dispersed or the nest has been determined to be a failure, as approved by the USFWS.

3.3.7 Conclusion

The project would result in direct impacts to 6.52 acres of coastal sage scrub vegetation communities, including the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub. However, implementation of mitigation measure MM-BIO-1 would reduce this impact to below a level of significance by requiring off-site habitat conservation at the appropriate ratios as shown in Table 3.3-4 above.

Further, the project would result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species. Implementation of mitigation measures MM-BIO-1 through MM-BIO-4 would reduce impacts to special-status wildlife species, including one single male coastal California gnatcatcher, to below a level of significance by avoiding clearing of vegetation during the nesting season, or by conducting a nesting bird survey and the associated requirements of MM-BIO-4 if construction activities should occur during the breeding season.



SOURCE: SANGIS 2017

FIGURE 3.3-1
Existing Biological Conditions
Sunrise Specific Plan Environmental Impact Report

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Project Boundary

Development Footprint

Off-Site

On-Site

2018 Focused Survey Results

Coastal California Gnatcatcher

Belding's Orange-Throated Whiptail

Vegetation Communities and Land Covers

BSC, Black sage scrub

CBS, California buckwheat scrub

DH, Disturbed Habitat

ORN, Ornamental

WOG, Wild Oats grassland

WSS, White sage scrub

dCBS, disturbed California buckwheat scrub



SOURCE: SANGIS 2017

FIGURE 3.3-2

Impacts to Biological Resources

Sunrise Specific Plan Environmental Impact Report

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3.4 CULTURAL RESOURCES

This section describes the existing cultural resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. Potential impacts to Tribal Cultural Resources are analyzed in Section 3.16 of this environmental impact report (EIR).

The analysis in this section relies on the Cultural Resource Inventory Report for the Sunrise Specific Plan Project (Cultural Resources Report) prepared by Dudek in May 2019. The cultural resources report included a record search, literature review, correspondence with Native American contacts, and a field 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 (City) General Plan. The cultural resources study is included as Appendix E of the 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	Less Than Significant with MM-CR-1 through MM-CR-7
#3 – Disturb any human remains, including those interred outside of dedicated cemeteries.	Potentially Significant	Less than Significant	Less Than Significant with MM-CR-1 through MM-CR-8

3.4.1 Existing Conditions

This section provides information on the cultural setting of the project site, as well as information on the research methodology used to prepare the Cultural Resources Report for the proposed project. Additional detail can be found in Appendix E of this EIR.

Cultural Setting

Natural Setting

As discussed in Chapter 2, Project Description, of this EIR, the approximately 14.4-acre project site is currently vacant, with areas disturbed from previous agricultural uses. Six vegetation communities/land covers were mapped within the project site, including wild oats grassland, California buckwheat scrub (including disturbed), black sage scrub, white sage scrub, disturbed habitat, and ornamental.

Historical Context

Native Americans have occupied San Diego County for the past 10,000 years. The Archaic Period extends back at least 7,200 years, possibly to as early as 9,000 years ago. Early Archaic occupations in San Diego County are most apparent along the coast and major drainage systems extending inland from the coastal plains. Coastal Archaic sites are generally characterized by cobble tools, basin metates, manos, discoids, dart points, and flexed burials. Together, these elements typify the La Jolla complex, which appears as the early coastal manifestation of a more diversified way of life.

Around 2,000 years ago, people from the Colorado River region began migrating into southern California in what is known as the Late Prehistoric period. Late Prehistoric sites are generally characterized by small, pressure-flaked projectile points, ceramics, an emphasis on collecting, processing, and storing plant food, and cremations. Villages became increasingly permanent, providing opportunity for the creation of stationary milling stations and the use of mortars for acorn processing.

In more recent times, two main cultural groups occupied San Diego County: the Luiseño in the north and the Kumeyaay (or Diegueño) in the south.

Methodology

SCIC Records Search

A records search was undertaken at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) in August 2017 by Dudek. The records search encompassed a search radius of one-half mile around the project site. The records search revealed that four previous cultural resources studies have been completed within the proposed project's area of potential effect (APE). Per the Code of Federal Regulations, an APE is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (CFR 2019).

Three of the four previous cultural resources studies identified above (Chace 1986, Brandman 1989, and Gallegos 2003) specifically address portions of the current APE but did not identify any cultural resources or historic addresses within the APE (Appendix E). The fourth cultural study (Affinis 2003) is a broader overview study of cultural resources in the Vallecitos Water District and also identified no cultural resources in the APE. Sixty-six other investigations have been completed within 1 mile of the APE (Appendix E).

3.4 Cultural Resources

The SCIC records search also revealed that no cultural resources have been recorded within the APE. The records search did identify 32 cultural resources and five historic addresses within 1 mile of the APE (Appendix E). The closest resources to the APE are three historic addresses located on the opposite side of Barham Drive. Two of these historic addresses (1412 and 1414) have been evaluated and were determined to be not eligible for inclusion in the National Register of Historic Places (NRHP) at the time of recordation.

Archival Research

In addition to the SCIC records search, Dudek conducted an on-line review of historic aerial images on the APE and general vicinity, to help determine the possible development and land use of the APE in the past. The historic aerial imagery available from the website HistoricAerials.com by Nationwide Environmental Title Research, LLC (NETR), demonstrates that the APE was cleared and partially leveled in 1953 (Appendix E). The only development of the property to date was the construction and operation of an orchard, first documented in the mid-1960s (Appendix E). This orchard was first photographed in a 1964 aerial image which already show the early stages of orchard trees aligned in even and consistent rows. The orchard continues to grow over the subsequent years of aerial imagery. A small building appears in the southeast corner of the APE in 1980 (Appendix E). Dirt roads were established connecting the building to the orchard and adjacent paved roads. The 1994 aerial suggest that the orchard began to be neglected (Appendix E). In the 1994 image, the growth of the trees had stopped and some trees had already died. By 1994, the building, possibly a mobile home, had been removed and the established dirt access roads have been covered with grasses and surrounding vegetation (Appendix E). The review of the historic aerial images and topographic maps demonstrate that, besides the orchard and temporary residence, there has been no other development of the APE.

Dudek also conducted a separate agricultural study for the current project site (Appendix L). The study revealed that the APE consists entirely of Vista coarse sandy loam and Fallbrook sandy loam. The typical stratigraphy for Vista coarse sandy loam includes eroded bedrock at 35 to 45 inches below surface, while bedrock is typically encountered between 12 and 28 inches in Fallbrook sandy loam. The presence of the knoll within the APE increases the likelihood that bedrock will be encountered near the ground surface.

Tribal Coordination

A Sacred Lands File (SLF) search at the Native American Heritage Commission (NAHC) was requested by Dudek on July 27, 2017, for the project site and a 1-mile buffer (APE). The SLF consists of a database of known Native American resources. These resources may not be included in SCIC database. The NAHC replied on August 4, 2017, and reported that the SLF did not identify any known Native American cultural resources within the APE or the surrounding one-mile buffer (Appendix E). 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.

3.4 Cultural Resources

Outreach letters were mailed on August 4, 2017, to all Native American group representatives included on the NAHC contact list (Appendix E)¹. 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 APE. Ray Teran, Resource Manager with the Viejas Band of Kumeyaay Indians, responded on August 21, 2017, stating that the project site has cultural significance and/or ties to the Viejas Band of the Kumeyaay Indians. He requested that a Kumeyaay cultural monitor be on site during ground disturbing activities. David Toler, Councilman for the San Pasqual Band of Mission Indians, responded on August 30, 2017, and stated that they know of no particular cultural resources within the APE, but think that the potential for resources exists. Mr. Toler did not make any specific request but did state that the San Pasqual Band is concerned that cultural resources may be disturbed. Chris Devers, Cultural Liaison for the Pauma Band of Luiseno Indians, responded on August 31, 2017, and stated that the Pauma Band is unaware of any specific cultural resources within the APE. Mr. Devers did request copies of the current study when completed. Merri Lopez-Keifer, Chief Legal Counsel to San Luis Rey Band of Mission Indians, responded on October 4, 2017, and requested that all cultural resource surveys completed in the APE be emailed to Cami Mojado. Dudek emailed copies of the four previously conducted cultural resource studies conducted within the APE to Cami Mojado on October 5, 2017. No other communications between Dudek and Native American group representatives included on the NAHC contact list has occurred since then. Dudek initiated tribal outreach as part of NAHC coordination prior to official government to government consultations between the City and concerned Tribes.

Intensive Pedestrian Survey

Dudek archaeologist Matthew DeCarlo conducted a survey of the proposed APE on June 27, 2018. Native American monitor Mario Herrera from Saving Sacred Sites, Inc.², participated in the pedestrian survey. The project site consists of a vacant lot delineated by existing residential and commercial developments. The APE has been previously disturbed as evidenced by graded terraces and rows of tree stumps. A graded pad is the only remnant of the temporary building that was located in the southeast corner of the property. Existing dirt paths already exist for both proposed access roads for the project. An earthen knoll is located in the south central portion of the APE. North of the knoll, the terrain slopes gently downhill to the north which is covered in grass and was easily surveyed. The knoll and the area to its south is more steeply sloped and covered in dense brush. The brush was so dense that regular survey was not possible. Instead, the survey team had to follow trails within the brush and survey the ground where visible. Ground visibility varied greatly between the northern and southern portions of the APE. Though currently undeveloped, the project is immediately adjacent to residential

¹ Note that these outreach letters reflect a previous version of the project site boundary that is larger than the current project site; this does not affect the results of this outreach, the analysis herein, and no revisions are required.

² Saving Sacred Sites, Inc. is a non-profit corporation that provides Native American monitoring services and specializes in Luiseno Tribal Cultural Resource protection and preservation.

and commercial development and has been subjected to illicit dumping activities. Pedestrian survey was conducted utilizing formal transects at 15-meter intervals, except as noted above. Deviations from transects also occurred to inspect animal burrows and other locations of exposed sediments. No cultural resources were identified within the project.

3.4.2 Regulatory Setting

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

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) established the NRHP program under the Secretary of the Interior. The NHPA authorized funding for state programs with provision for pass-through funding and participation by local governments, created an Advisory Council on Historic Preservation, and established the Section 106 review process for protecting historic resources. The goal of the Section 106 review process is to offer protection to sites that are determined eligible for listing in the NRHP. The NHPA provides the legal framework for most state and local preservation laws.

Traditional Cultural Properties (Native American Heritage Values)

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project. Also potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties in discussions of cultural resource management (CRM) performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice (Appendix E). The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices.

State

California Register of Historic Resources (CRHR) (Public Resources Code Section 5020 et seq.)

In California, the term “historical resource” includes, but is not limited to, “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code Section 5020.1(j)). In 1992, the California legislature established CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria (California Public Resources Code Section 5024.1(c).):

1. Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR unless 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 NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer (SHPO) maintains the CRHR.

California Points of Historic Interest

California Points of Historical Interest are buildings, structures, site or features of local (city and county) significance and have anthropological, cultural, military, political, architectural, economic, scientific/technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 are recommended by the State Historical Resources Commission are also listed in the California Register of Historical Resources. The criteria for designation of Points of Historical Interest are the same as those that govern the California Historic Landmarks program.

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 Native American Heritage Commission (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 Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Environmental Quality Act

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines Section 15064.5(b)(1); California Public Resources Code Section 5020.1(q)).

California Health and Safety Code Section 7050.5

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 (Section 7050.5b). 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 (Section 7050.5c). The NAHC will notify the Most Likely Descendant. With the permission of the landowner, the Most Likely Descendant may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the Most Likely Descendant by the NAHC. The Most Likely Descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Health and Safety Code Section 8010-8011

This code is intended to provide consistent state policy to ensure that all California Indian human remains and cultural material are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes and federally recognized groups.

Assembly Bill 2461

The section provides procedures for private landowners to follow upon discovering Native American human remains. Landowners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California PRC 5097.98.

Senate Bill 18

SB 18, approved in 2004, amends the California Civil Code and the California Government Code, requiring cities and counties to contact and consult with California Native American tribes prior to adopting or amending any general plan or specific plan, or designating land as open space in order to preserve or mitigate impacts to specified Native American places, features and objects that are located within the city's or county's jurisdiction. SB 18 also requires cities and counties to hold in strict confidence any information about the specific identity, location, character or use of these resources. In 2005, OPR published Tribal Consultation Guidelines to guide cities and counties on the process of engaging in consultation in accordance with SB 18. The Native American Heritage Commission (NAHC) maintains a list of California Native American Tribes with whom cities and counties must consult pursuant to SB 18.

Assembly Bill 52

AB 52 was approved in 2014 and adds new requirements regarding consultation with California Native American Tribes and consideration of tribal cultural resources. The law went into effect on July 1, 2015, and after that date, if requested by a California Native American Tribe, lead agencies must consult prior to the release of a Negative Declaration, Mitigated Negative Declaration or Draft EIR. City of San Marcos consultation efforts in accordance with SB18 and AB52 are discussed in the Section 3.16, Tribal Cultural Resources, of this EIR

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:

- **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 offsite, 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 proposed 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

Project grading activities will result in ground disturbance in those areas of the project site proposed for development. Ground disturbing activities can result in impacts to archeological and historic resources if they are present on the project site. The following analysis discusses the potential for the project to result in impacts to cultural resources.

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

Substantial adverse impacts to historical resources include demolition, destruction, relocation, or alteration such that the significance of the resource would be impaired. As identified in Section 3.4.1, no historic resources exist at the project site, in the off-site improvement areas, or immediate surroundings. Thus, no impact would occur.

Threshold #2: Would the project cause a substantial adverse change in the significance of an archaeological 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, above, no cultural resources were found at the project site during the field survey. However, visibility was poor in various areas of the site during the pedestrian survey. Excavation for project construction could potentially reach previously undisturbed native soils which have the potential to contain unidentified cultural resources. As such, unknown subsurface archaeological resources of significance may occur at the project site. Thus, the project has the potential to disturb unidentified archaeological resources during project grading, representing a potentially significant impact (Impact CR-1) and mitigation is required (refer to Section 3.4.6 below).

Impact CR-1 Unknown archaeological resources may occur on the project site, and the proposed project has the potential to disturb such unidentified resources during project grading.

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

The cultural resources field survey conducted for the project did not identify any human remains or find any indications that they would be expected to be found on the project site. If human remains are encountered during project construction, there is a potential for a significant impact (Impact CR-2).

Impact CR-2 There is a potential for project construction activities to disturb previously unidentified human remains on the project site.

State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. Adherence to State Health and Safety Code Section 7050.5 is mandated and is reiterated as a mitigation measure in Section 3.4.6.

3.4.5 Cumulative Impact Analysis

A “cumulative impact” refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project’s cumulative impact with respect to cultural resources, the cumulative analysis is based upon a list approach to determine the proposed project’s contributing effect on potential cumulative impacts on cultural resources. All of the cumulative projects identified in Table 2-3 are considered in this cumulative analysis.

Historical Resources

As identified in Section 3.4.4, no historic resources exist at the project site. Thus, no impact to historic resources would occur with implementation of the proposed 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 historic resources, as required by local jurisdictions and state law. As such, no cumulative impacts to historic resources would occur.

Archaeological Resources

Various related projects included in Table 2-3 could result in potential impacts to archaeological resources. For instance, the Valiano Development Project, located in the County, would result in potentially significant impacts to archaeological resources due to various resources found on site. Nonetheless, the Valiano Development Project’s EIR included various mitigation measures, including a data recovery program, and a

grading monitoring program, to reduce impacts to less-than-significant levels (County of San Diego 2018). It is assumed that other projects that would result in potential impacts to archaeological resources would include similar mitigation.

As identified in Section 3.4.4, no cultural resources were found at the project site during the field survey. However, unknown subsurface archaeological resources may occur at the project sit and thus the project has the potential to disturb unidentified archaeological resources during project grading, representing a potentially significant impact (Impact CR-1). Mitigation measures MM-CR-1 through MM-CR-7 would be implemented to reduce impacts to less than significant levels. 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 cultural resources, as required by local jurisdictions and state law. As such, cumulative impacts would be less than significant.

Human Remains

Similar to the project, the presence of human remains is typically unknown until earthwork activities commence for project construction. As identified in Section 3.4.4, the cultural resources field survey conducted for the project did not identify any human remains or find any indications that they would be expected to be found on the project site. If human remains are encountered during project construction, there is a potential for a significant impact (Impact CR-2). However, mitigation measures MM-CR-1 through MM-CR-8 would ensure any impacts to human remains would be less than significant. It is expected that all cumulative projects would assess potential impacts to human remains that these projects would avoid or mitigate these impacts, as required by local jurisdictions and state law. As such, cumulative impacts would be less than significant.

3.4.6 Mitigation Measures

MM-CR-1 Prior to the issuance of a Grading Permit, or ground-disturbing activities, the applicant/developer shall enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with the San Luis Rey Band of Mission Indians, and/or another Traditionally and Culturally Affiliated Native American Tribe (“TCA Tribe”). The purpose of this agreement shall be to formalize protocols and procedures between the applicant/developer and the TCA Tribe for the protection and treatment of Native American human remains, funerary objects, cultural and/or religious landscapes, ceremonial items, traditional gathering areas and other tribal cultural resources, located within and/or discovered during ground disturbing and/or construction activities for the proposed project, including any additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, preparation for wet and dry infrastructure, and all other ground disturbing activities.

3.4 Cultural Resources

- MM-CR-2** The landowner shall relinquish ownership of all non-burial related tribal cultural resources collected during the grading monitoring program and from any previous archaeological studies or excavations on the project site to the TCA Tribe for proper treatment and disposition per the Cultural Resources Treatment and Monitoring Agreement. Any burial related tribal cultural resources (as determined by the Most Likely Descendant) shall be repatriated to the Most Likely Descendant as determined by the Native American Heritage Commission pursuant to California Public Resources Code Section 5097.98. If none of the TCA Tribes accept the return of the cultural resources, then the cultural resources will be subject to the curation requirements contained herein. Additionally, in the event that curation of tribal cultural resources is required by a superseding regulatory agency, curation shall be conducted by an approved facility and the curation shall be guided by California State Historic Resource Commissions Guidelines for the Curation of Archaeological Collections. The City of San Marcos shall provide the applicant/developer final curation language and guidance on the project grading plans prior to issuance of the grading permit, if applicable, during project construction. The applicant/developer shall provide to the City written documentation from the TCA Tribe, the Most Likely Descendant, and/or the curation facility, whichever is most applicable, that the repatriation and/or curation have been completed.
- MM-CR-3** Prior to the issuance of a Grading Permit or ground-disturbing activities, the applicant/developer or Grading Contractor shall provide a written and signed letter to the Director of the Development Services Department stating that a Qualified Archaeologist and TCA Native American monitor have been retained at the applicant/developer or Grading Contractor's expense to implement the monitoring program, as described in the Tribal Cultural Resource Treatment and Monitoring Agreement.
- MM-CR-4** Prior to submittal of grading and/or improvement as-built plans, or prior to the issuance of any project Certificate of Occupancy, a monitoring report, which describes the results, analysis and conclusions of the archaeological monitoring program shall be submitted by the Qualified Archaeologist, along with the TCA Native American monitor's notes and comments, to the Director of the Development Services Department for approval. A copy of any submitted monitoring report shall be provided to the San Luis Rey Band of Mission Indians and any other TCA Tribe that requests the report.
- MM-CR-5** The Qualified Archaeologist shall maintain ongoing collaborative consultation with the TCA Native American monitor during all ground disturbing activities. The requirement for the monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The applicant/developer or Grading Contractor shall notify the Director of the Development Services Department, through e-mail, of the start and end of all ground disturbing activities.
- MM-CR-6** The Qualified Archaeologist and TCA Native American Monitor shall attend all applicable pre-construction meetings with the General Contractor and/or associated Subcontractors to present the archaeological monitoring program. The Qualified Archaeologist and TCA Native American monitor shall be present on-site full-time during grubbing, grading and/or

3.4 Cultural Resources

other ground disturbing activities, including the placement of imported fill materials or fill used from other areas of the project site, to identify any evidence of potential archaeological or cultural resources. All fill materials shall be absent of any and all cultural resources. The applicant/developer or Grading Contractor may submit written documentation to the Director of the Development Services Department to substantiate if any fill material is absent of cultural resources. Should the City concur that the fill material is absent of cultural resources, in consultation with a Qualified Archaeologist and/or the TCA Native American monitor, then no monitoring of that fill material is required.

MM-CR-7 The Qualified Archaeologist or the TCA Native American monitor may halt ground disturbing activities if unknown archaeological artifact deposits or cultural features are discovered. Ground disturbing activities shall be directed away from these deposits to allow a determination of potential importance. Isolates and clearly non-significant deposits (as determined by the Qualified Archaeologist, in consultation with the TCA Native American monitor) will be minimally documented in the field, collected and be given to the TCA Tribe so that they may be reburied at the site on a later date. If a determination is made that the unearthed artifact deposits or tribal cultural resources are considered potentially significant, the San Luis Rey Band of Mission Indians and/or the TCA Tribe referenced in mitigation measure MM-CR-1 shall be notified and consulted with in regards to the respectful and dignified treatment of those resources. 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 feasible. If however, a data recovery plan is authorized by the City as the Lead Agency under CEQA, the contracted San Luis Rey Band of Mission Indians and/or the TCA Tribe referenced in mitigation measure MM-CR-1 shall be notified and consulted regarding the drafting and finalization of any such recovery plan. For significant artifact deposits, tribal cultural resources or cultural features that are part of a data recovery plan, 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 and provide them to the contracted TCA Tribe referenced in mitigation measure MM-CR-1 for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. If the applicant/developer, the Qualified Archaeologist and the TCA Tribe cannot agree on the significance or mitigation for such resources, these issues will be presented to the Director of the Development Services Department for decision. The Director of the Development Services Department shall make a determination based upon the provisions of the California Environmental Quality Act and California Public Resources Code Section 21083.2(b) with respect to archaeological resources, tribal cultural resources and shall take into account the religious beliefs, cultural beliefs, customs and practices of the TCA Tribe. Notwithstanding any other rights available under law, the decision of the Director of the Development Services Department shall be appealable to the Planning Commission and/or City Council.

MM-CR-8 As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction 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. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains 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, and consultation and treatment could occur as prescribed by law. By 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, he or she shall contact the Native American Heritage Commission (NAHC), by telephone, within 24 hours. The NAHC will make a determination as to the Most Likely Descendent. If suspected Native American remains are discovered, the remains shall be kept in-situ, or in a secure location in close proximity to where they were found, and the examination of the remains shall only occur on-site in the presence of a TCA Native American monitor.

3.4.7 Conclusion

Implementation of the proposed 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 during project grading.

These potentially significant impacts to archaeological resources and human remains would be mitigated to below a level of significance through implementation of mitigation measures MM-CR-1 through MM-CR-8.

Specifically, implementation of mitigation measures MM-CR-1 through MM-CR-7 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 mitigation measures MM-CR-1, MM-CR-2, and MM-CR-7 would ensure proper handling and treatment of such resources by providing for a proper evaluation to determine whether additional archaeological work is necessary.

Finally, potential impacts to human remains would be mitigated through implementation of mitigation measures MM-CR-1 through MM-CR-8, which include 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. Therefore, with incorporation of these measures, potential impacts to cultural resources would be reduced to below a level of significance.

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3.5 ENERGY

This section describes the existing setting of the project site with respect to energy use and conservation, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Sunrise Specific Plan (proposed 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 proposed 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 proposed project. This analysis considers the electricity, natural gas, and transportation fuel (petroleum) demand of the proposed project.

Information in this section is based on the proposed project's Air Quality and Greenhouse Gas Emissions Technical Report (August 2019), prepared by Dudek, which is included as Appendix C 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 proposed project related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed below. In summary, in 2015 (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 282,896 gigawatt hours of electricity (EIA 2017a)
- Approximately 23 billion therms of natural gas (approximately 6.4 billion cubic feet of natural gas per day) (EIA 2017b)
- Approximately 14 billion gallons of gasoline (CEC 2015a)

Electricity

Electricity usage in California for different land uses varies substantially by the types of uses in a building, types of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita has remained stable for more than 30 years, and the national average has steadily increased (CEC 2015a).

San Diego Gas & Electric (SDG&E) provides electric services to 3.6 million customers through 1.4 million electric meters located in a 4,100-square-mile service area that includes San Diego County (County) and southern Orange County (SDG&E 2016). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the Proposed Project. According to the California Public Utilities Commission (CPUC), SDG&E customers consumed approximately 19,722 million kilowatt-hours (kWh) of electricity in 2015 (CPUC 2016).

SDG&E receives electric power from a variety of sources. According to CPUC's 2016 Biennial Renewable Portfolio Standard (RPS) Program Update, 44% of SDG&E's power came from eligible renewable energy sources in 2017, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2018).

Based on recent energy supply and demand projections in California, statewide annual peak electricity demand is projected to grow an average of 890 megawatts per year for the next decade, or 1.4% annually, and consumption per capita is expected to remain relatively constant at 7,200–7,800 kWh per person (CEC 2015a).

In the County, the California Energy Commission (CEC) reported an annual electrical consumption of approximately 12.9 billion kWh in 2016, with 13.1 billion kWh for non-residential use and 6.8 billion kWh for residential use (CEC 2018b).

Natural Gas

CPUC regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from Pacific Gas & Electric (PG&E), 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 2017). SDG&E provides natural gas service to the Counties of San Diego and Orange and would provide natural gas to the proposed project. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2017).

The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 68% of the natural gas delivered by California utilities in 2012 (CPUC 2017).

CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2017).

In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California (CPUC 2017). Natural gas from out-of-state production basins is delivered into California through the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Southern Trails, and Mojave Pipeline. The North Baja–Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers it through California into Mexico. The Federal Energy Regulatory Commission regulates the transportation of natural gas on interstate pipelines, and CPUC often participates in Federal Energy Regulatory Commission regulatory proceedings to represent the interests of California natural gas consumers (CPUC 2017).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the PG&E 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 is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline system, and some core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the natural gas delivered to California's gas consumers in 2012 (CPUC 2017).

PG&E and SoCalGas own and operate several natural gas storage fields that are located in Northern and Southern California. These storage fields and four independently owned storage utilities—Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage—help meet peak-season natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently (CPUC 2017).

California's regulated utilities do not own any natural gas production facilities. All natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC 2017).

As indicated in the preceding discussion, natural gas is available from a variety of in-state and out-of-state sources, and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

Petroleum

There are more than 35 million registered vehicles in California, and those vehicles consume an estimated 18 billion gallons of fuel each year (CEC 2017; DMV 2017). Gasoline and other vehicle fuels are commercially provided commodities and would be available to the proposed project through commercial outlets.

Petroleum currently accounts for approximately 92% of California's transportation energy consumption (CEC 2017). However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and greenhouse gas (GHG) emissions, and reduce vehicle miles traveled (VMT). Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible.

Largely as a result of and in response to these multiple factors, gasoline consumption within the state has declined in recent years, and availability of other alternative fuels/energy sources has increased. The quantity, availability, and reliability of transportation energy resources have increased in recent years, and this trend may likely continue and accelerate (CEC 2017). Increasingly available and diversified transportation energy resources act to promote continuing reliable and affordable means to support vehicular transportation within the state.

Existing Infrastructure

The proposed project is within the SDG&E service area and would connect to a 12 kilovolt transmission line in a vault and the gas distribution system underneath Meyers Avenue,

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 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 CAFE 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 2013, 2015). The U.S. Environmental Protection Agency (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 GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as “RFS2” and includes the following:

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

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

State

The 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 Bill 1078 (2002)

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

Senate Bills 107 (2006), X1-2 (2011), 350 (2015), and 100 (2018)

Senate Bill (SB) 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) 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.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 60% RPS in 2030. 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 California Air Resources Board (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 (2006) and Senate Bill 32 (2016)

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

Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The 2016 Title 24 building energy efficiency standards, which became effective on January 1, 2017, further reduce energy used in the state. In general, single-family homes built to the 2016 standards are anticipated to use approximately 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and non-residential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015b).

The 2019 Title 24 standards were approved and adopted by the California Building Standards Commission in December 2018. The 2019 standards will become effective January 1, 2020. The standards would require that all low-rise residential buildings shall have a photovoltaic system meeting the minimum qualification requirements such that annual electrical output is equal to or greater than the dwelling's annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7% less energy due to energy efficiency measures versus those built under the 2016 standards, while new nonresidential buildings will use about 30% less energy (CEC 2018a).

Title 24 also includes Part 11, the CALGreen. 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, as well as schools and hospitals. The 2016 CALGreen standards became effective on January 1, 2017. The mandatory standards require the following:

- 20% mandatory reduction in indoor water use
- 50% diversion of construction and demolition waste from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency

Integrated Energy Policy Report

The CEC is responsible for preparing integrated energy policy reports that identify emerging trends related to energy supply, demand, and conservation; public health and safety; and maintenance of a healthy economy. The CEC's 2018 Integrated Energy Policy Report discusses the state's policy goals of decarbonizing buildings, doubling energy efficiency savings, and increasing flexibility in the electricity grid system to integrate more renewable energy (CEC 2018b). Specifically for the decarbonizing of building energy, the goal would be achieved by designing future commercial and residential buildings to have their energy sourced almost entirely from electricity in place of natural gas. Regarding the increase in renewable energy flexibility, the goal would be achieved through increases in energy storage capacity within the state, increases in energy efficiency, and adjusting energy use to the time of day when the most amount of renewable energy is being generated. Over time these policies and trends would serve to beneficially reduce the project's GHG emissions profile and energy consumption as they are implemented.

State Vehicle Standards

In a response to the transportation sector accounting for more than half of California's carbon dioxide (CO₂) emissions, AB 1493 was enacted in 2002. 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 whose primary use is 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. The 2009–2012 standards resulted in a reduction in approximately 22% GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30%.

In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34% fewer global warming gases and 75% fewer smog-forming emissions (CARB 2011).

Although the focus of the state's vehicle standards is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for petroleum-based fuels.

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 VMT, which influence the consumption of petroleum-based fuels.

Local

SDG&E Long-Term Procurement Plan

In 2009, CPUC approved SDG&E's Long-Term Procurement Plan (LTPP), which identifies how SDG&E will meet the future energy needs of customers in SDG&E's service area (SDG&E 2009). The LTPP identifies several energy demand reduction targets (i.e., conservation) and goals for increasing renewable energy supplies, new, local power generation, and increased transmission capacity.

The LTPP sets a standard for acquiring 20% of SDG&E's energy mix from renewables by 2010 and 33% by 2020. The LTPP also calls for greater use of in-region energy supplies, including renewable energy installations. The LTPP states that, by 2020, SDG&E intends to achieve and maintain the capacity to generate 75% of summer peak demand energy with in-County generation. The LTPP also identifies 44% of its renewables to be generated and distributed in-region by 2020.

City of San Marcos General Plan

The City's General Plan (City of San Marcos 2012) includes various policies related to reducing GHG emissions and the co-benefit of reducing energy consumption. 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.

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.

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

City of San Marcos Climate Action Plan

The City of San Marcos (City) adopted its Climate Action Plan (CAP) in September 2013, and is in the process of updating its CAP. The adopted CAP (City of San Marcos 2013) contains recommended local GHG reduction measures. The majority of the actions described in the CAP are not project specific and include City-wide actions in which the City should implement by the target year. These forecast years for 2020 and 2030 reflect federal, state, and local regulations (i.e., AB 32 and executive order (EO) S-3-05) and coincide with the buildout of the General Plan Update. Some of the measures included into the CAP that will help the City reach their intended GHG reduction targets include:

- Facilitate sustainable development based on smart growth principles.
- Continue to expand and improve the City's bicycle and pedestrian network.
- Continue to expand and improve the transit network and its accessibility within San Marcos.
- Expand the availability and use of alternative fuel vehicles and fueling infrastructure.
- Require projects seeking discretionary approval from the City to implement all feasible measures for reducing GHG emissions associated with construction equipment.
- Promote xeriscaping to reduce yard trimmings and landscape maintenance.
- Increase recycling, composting, source reduction, and education efforts throughout San Marcos to reduce the amount of solid waste sent to landfills.
- Increase the efficient use of energy and conservation of available resources in the design and construction of new buildings.

Applicable climate action measures include the following:

- **E-2 Energy Efficient New Construction** – Increase the efficient use of energy and conservation of available resources in the design and construction of new buildings.
 - **E-2.1:** Develop and/or promote incentives (e.g., expedited plan review, public recognition, existing state and utility financial incentives, etc.) for projects that voluntarily exceed Title 24 Energy Efficiency Building Standards.
 - **E-2.2:** Provide green building resources and promote workshops offered by community organizations.
 - **E-2.3:** Provide public recognition of Zero Net Energy projects built in advance of state requirements.
- **E-4 Smart Meters** – Increase the community’s awareness understanding, and use of real-time energy consumption data and pricing available through SDG&E’s Smart Meter program.
 - **E-4.1:** Assist SDG&E in its efforts to educate residents and business owners about Smart Meters, how to monitor electricity use, and the potential benefits associated with Smart Meters.
 - **E-4.2:** Inform the community of smart metering options, such as online applications and in-home monitors.
 - **E-4.3:** Connect residents and businesses with rebate and incentive programs that give priority to appliances with smart grid technology through the City’s website.
- **E-5 On-Site Small-Scale Solar Energy** – Facilitate the installation and use of on-site small-scale energy systems, such as solar PV systems and other solar water heaters.
 - **E-5.1:** Encourage local homebuilders to participate in the New Solar Homes Partnership to install solar PV systems on qualifying homes.
 - **E-5.2:** Expand education on and promotion of existing incentive, rebate, and financial programs for solar PV systems and solar hot water heaters, such as those offered through the California Solar initiative, targeting specific groups or sectors within the community.
- **O-1 Construction Equipment Efficiency and Fuels** – Require projects seeking discretionary approval from the City to implement all feasible measures for reducing GHG emissions associated with construction equipment.
 - **O-1.1:** Through the construction permitting process, limit construction vehicle and equipment idling to 3 minutes and require the project applicant to post clear signs for workers at the entrances to the site.

- **O-1.2:** Through the construction permitting process, require a percentage of construction vehicles and equipment to use equipment with new technologies (repowered engines, electric drive trains), use CARB-approved low carbon fuel, or be electrically-powered.
- **O-2 Lawn and Garden Equipment** – Promote xeriscaping to reduce yard trimmings and landscape maintenance.
 - **O-2.1:** Provide educational workshops and training to promote the installation of low-maintenance native landscaping in new and existing developed lots and remove turf to reduce lawn and garden equipment usage.

The reduction GHG emissions reduction goals have the co-benefit of reducing energy consumption.

3.5.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts 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 proposed 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 construction 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 temporary and minimal; therefore, impacts would be less than significant.

Operational Use

At full build-out, the proposed project's operational phase would require electricity for operating the residences. The California Emissions Estimator Model (CalEEMod), version 2016.3.2, default values for electricity consumption for the residential land use were applied (CAPCOA 2017). The electricity use for residential buildings is calculated in CalEEMod using energy intensity value (electricity use per square foot per year) assumptions, which were based on the Residential Appliance Saturation Survey (RASS) (CEC 2010).

The proposed project is estimated to have a total electrical demand of approximately 981,543 kWh per year, which is based on CalEEMod. The proposed project includes various on-site features and measures to reduce the proposed project's energy consumption. Further, the proposed project would be required to be consistent with appropriate mandatory project design feature in the CAP Consistency Worksheet that would reduce operational electricity consumption (details are provided in Appendix C of this EIR) and would be built in compliance with 2019 Title 24 standards. Based on the new standards, homes built under the 2019 Title 24 standards would use about 53% less energy than those under the 2016 Title 24 standards (CEC 2018a) because the 2019 standards require solar photovoltaic systems for new homes. On the residential side, the standards also encourage demand responsive technologies including battery storage and heat pump water heaters and improve the building thermal envelope. Homes built in 2020 and beyond will be highly efficient and include solar photovoltaic generation to meet the home's expected annual electric needs (CEC 2018a). The project would install smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems, where practical, which would reduce lighting energy by 20%. Thus, environmental impacts related to operational electricity use would be less than significant.

Natural Gas***Construction Use***

Natural gas is not anticipated to be required during construction of the proposed 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 proposed project construction would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts would be less than significant.

Operational Use

Natural gas would be directly consumed throughout operation of the proposed project, primarily through building heating for homes. As described above and consistent with electricity use, the proposed project's natural gas use was estimated using CalEEMod. No hearths or woodstoves would be included in the project design.

The proposed project is estimated to use approximately 18,562 therms of natural gas per year (Appendix C). By comparison, in 2015, SDG&E supplied 464.5 million therms of natural gas to customers (CEC 2016a). The proposed project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to project approval, the applicant would ensure that the proposed project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. The proposed project would implement energy efficiency design features and would not result in a wasteful use of energy. Therefore, environmental impacts from natural gas consumption would be less than significant.

Petroleum

Construction Use

Petroleum would be consumed throughout construction of the proposed project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities, as well as haul trucks involved in moving dirt around the project site, would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during each phase of construction. CalEEMod was used to estimate construction equipment usage, and results are included in Appendix C. Based on that analysis, over all phases of construction, diesel-fueled construction equipment would operate for an estimated 57,203 hours, as summarized in Table 3.5-2.

Table 3.5-2
Hours of Operation for Construction Equipment

Phase	Hours of Equipment Use
Site Preparation	320
Grading	5,088
Paving	4,224
Building Construction	46,761
Architectural Coating	810
Total	57,203

Source: Appendix C.

Fuel consumption from construction equipment was estimated by converting the total CO₂ emissions from each construction phase to gallons using conversion factors for CO₂ to gallons of gasoline or diesel. Construction is estimated to occur over a 21-month period (2020–2021) based on the construction phasing schedule. The conversion factor for gasoline is 8.78 kilograms per metric ton CO₂ per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO₂ per gallon (The Climate Registry 2018). The estimated diesel fuel use from construction equipment is shown in Table 3.5-3.

Table 3.5-3
Construction Equipment Diesel Demand

Phase	Equipment CO ₂ (MT)	kg CO ₂ /Gallon	Gallons
Site Preparation	10.23	10.21	1,002.35
Grading	138.11	10.21	13,527.05
Paving	88.12	10.21	8,631.16
Building Construction	797.09	10.21	78,070.02
Architectural Coating	17.23	10.21	1,687.99
Total			102,918.57

Sources: Appendix C (pieces of equipment and equipment CO₂); The Climate Registry 2018 (kg CO₂/gallon).
CO₂ = carbon dioxide; kg = kilogram; MT = metric ton

Fuel consumption from worker and vendor trips is estimated by converting the total CO₂ emissions from each construction phase to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor/hauling vehicles are assumed to be diesel fueled. Calculations for total worker, vendor, and hauler fuel consumption are provided in Tables 3.5-4, 3.5-5, and 3.5-6.

Table 3.5-4
Construction Worker Vehicle Gasoline Demand

Phase	Vehicle CO ₂ (MT)	kg CO ₂ /Gallon	Gallons
Site Preparation	0.22	8.78	25.42
Grading	2.96	8.78	336.88
Paving	7.37	8.78	839.02
Building Construction	269.94	8.78	30,745.22
Architectural Coating	21.84	8.78	2,487.72
Total			34,434.26

Sources: Appendix C (construction worker CO₂); The Climate Registry 2018 (kg CO₂/gallon).
CO₂ = carbon dioxide; kg = kilogram; MT = metric ton

**Table 3.5-5
Construction Vendor Truck Diesel Demand**

Phase	Vehicle CO ₂ (MT)	kg CO ₂ /Gallon	Gallons
Site Preparation	0.12	10.21	11.93
Grading	1.29	10.21	126.45
Building Construction	102.80	10.21	10,068.51
Architectural Coating	0.00	10.21	0.00
Total			10,206.90

Sources: Appendix C (vendor truck CO₂); The Climate Registry 2018 (kg CO₂/gallon).

CO₂ = carbon dioxide; kg = kilogram; MT = metric ton

**Table 3.5-6
Construction Haul Truck Diesel Demand**

Phase	Trips	Vehicle CO ₂ (MT)	kg CO ₂ /Gallon	Gallons
Site Preparation	125	4.82	10.21	472.12
Grading	70	2.71	10.21	265.43
Total				737.54

Sources: Appendix C (haul truck CO₂); The Climate Registry 2018 (kg CO₂/gallon).

CO₂ = carbon dioxide; kg = kilogram; MT = metric ton

As shown in Tables 3.5-4 through 3.5-6, the proposed project is estimated to consume a total of 45,378.70 gallons of petroleum from worker vehicle, vendor truck, and haul truck trips during the construction phase. By comparison, approximately 24.4 billion gallons of petroleum would be consumed in California over the course of the proposed project's construction period based on the California daily petroleum consumption estimate of approximately 52.9 million gallons per day (CEC 2016b). The proposed project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Furthermore, the project's construction practices would be typical (i.e. not require specialized construction equipment or otherwise present unusual circumstances in which substantial amounts of fuels would be required). Therefore, because petroleum use during construction, including construction of the proposed project, would be temporary and minimal and would not be wasteful or inefficient, impacts would be less than significant.

Operational Use

The majority of fuel consumption resulting from the proposed project's operational phase would be attributable to the use of resident motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by residents, visitors, and employees.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of VMT as a result of project operation. As shown in Appendix C, the annual VMT attributable to the proposed project is expected to be approximately 3,471,675 VMT per year. Similar to

construction worker and vendor trips, fuel consumption was estimated by converting the total CO₂ emissions from each land use type to gallons using the conversion factors for CO₂ to gallons of gasoline or diesel. Based on the annual fleet mix provided in CalEEMod, 93.3% of the fleet range from light-duty to medium-duty vehicles and motorcycles were assumed to run on gasoline. The remaining 6.7% of vehicles represent medium-heavy duty to heavy-duty vehicles and buses/recreational vehicles, which were assumed to run on diesel.

Calculations for annual mobile-source fuel consumption are provided in Table 3.5-7.

Table 3.5-7
Mobile Source Fuel Consumption – Operation

Fuel	Vehicle MT CO ₂	kg CO ₂ /Gallon	Gallons
Gasoline	1,289.87	8.78	146,910.31
Diesel	92.63	10.21	9,072.23
Total			155,982.54

Sources: Appendix C (mobile source CO₂); The Climate Registry 2018 (kg CO₂/gallon).
CO₂ = carbon dioxide; kg = kilogram; MT = metric ton

As shown in Table 3.5-7, mobile sources from the proposed project would result in approximately 146,910 gallons of gasoline per year and 9,072 gallons of diesel consumed per year beginning in 2022. By comparison, California as a whole consumed approximately 16 billion gallons of petroleum in 2016 (CEC 2017) and the County is expected to use 2.0 billion gallons of petroleum per year for transportation in 2020 (Caltrans 2008).

Over the lifetime of the proposed project, the fuel efficiency of the vehicles being used by residents 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. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, the proposed project would include multi-modal design features, traffic-calming measures, and the integrated walking and bicycling trails, which would help support the goals of SB 375 to reduce VMT.

The California Air Pollution Control Officers Association (CAPCOA) has developed methodologies for quantifying the emission reductions associated with numerous mitigation measures (CAPCOA 2010). Several of the measures would also reduce air pollutant emissions that are related to land use and transportation planning. These measures would reduce vehicle trips and/or trip lengths, enhance walking and bicycles as alternative modes of transportation, enhance availability of transit, and incorporate other approaches. Regarding mobile source emission reduction features relating to land

use, it was assumed that the project would involve an increase in access to transit. The project is approximately 0.6 miles from the bus service and Sprinter station, which provides light rail access into the nearby cities of Escondido, Vista, and Oceanside. Additionally, the Sprinter connects to the Surfliner and Coaster routes, which provide north-south access to Los Angeles County, Orange County, and the City of San Diego. Providing non-motorized access to multiple job centers through quality transit would reduce the project's vehicle miles traveled and is included in the CalEEMod vehicle trip estimates (CAPCOA 2010). Each residential garage would be pre-wired for a 220-volt electric vehicle charging station.

In summary, although the proposed project would increase petroleum use during operation, the use would be a small fraction of the statewide use and, due to efficiency increases, diminish over time. Additionally, the inclusion of on-site walking/bicycling trails and increased access to transit would help reduce petroleum-based fuels consumption. Given these considerations, petroleum consumption associated with the proposed 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.

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

The proposed project would follow applicable energy standards and regulations during the construction phases. Furthermore, the proposed project includes various on-site features and measures to reduce the proposed project's energy consumption, which would include installing smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems. The proposed project would be built and operated in accordance with all existing, applicable regulations at the time of construction. Furthermore, the proposed project would be consistent with all actions in the CAP Consistency Worksheet as discussed in detail in Appendix C of this EIR. For the reasons stated, the proposed project would not obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

3.5.5 Cumulative Impact Analysis

Potential cumulative impacts on energy would result if the proposed 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 proposed project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary use of energy due to various design features, including designing building as zero net energy (ZNE), installation of smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems. Similar to the proposed project, the cumulative projects would be subject to CALGreen, which provides energy efficiency standards for commercial and residential buildings. CALGreen would implement increasingly stringent energy efficiency standards that would require the proposed 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. Future development would also be required to meet even more stringent requirements, including the objectives set in the AB 32 Scoping Plan (CARB 2017), which would seek to make all newly constructed residential homes ZNE consumers by 2020, and all new commercial buildings ZNE consumers by 2030. 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 consideration of cumulative energy use, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Thus, the proposed project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the proposed project 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 proposed project would comply with regulatory requirements and would implement project design features in the City's CAP Consistency Worksheet that would reduce operational electricity consumption. The residential buildings would install smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems. As such, the proposed project would not result in the wasteful or inefficient use of electricity, and impacts would be less than significant.

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

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3.6 GEOLOGY AND SOILS

This section describes the existing geological setting of the project site, 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 proposed project.

The following report has been prepared to analyze the geological and geotechnical impacts of the proposed project and is included in its entirety in Appendix F1 of this environmental impact report (EIR):

- Geotechnical Evaluation for the Proposed “Sunrise” Residential Development Assessor’s Parcel Numbers (APNs): 228-312-18-05, -09 and -10, City of San Marcos, County of San Diego, California 92078. Prepared by EEI Engineering Solutions. Dated August 3, 2017¹.

As part of this investigation prepared by EEI Engineering Solutions, additional geotechnical evaluation was performed and is provided as Appendix F2:

- Supplemental Geotechnical Evaluation – Result of Air-Track Exploration. Prepared by EEI Engineering Solutions. Dated October 2, 2017¹.

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

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	Less than Significant	Less than Significant	Less than Significant

¹ Both geotechnical evaluations reflect a different project boundary, which is larger than the current proposed project site. However, the analysis contained therein and reflected in this section is not altered by the differences in these boundaries and no revisions are needed.

Table 3.6-1
Geology and Soils Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
loss, injury, or death involving strong seismic-related ground failure, including liquefaction.			
#4 – Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.	Less than Significant	Less than Significant	Less than Significant
#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 result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less than Significant	Less than Significant	Less than Significant
#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?	Less than Significant	Less than Significant	Less than Significant

3.6.1 Existing Conditions

Regionally, the project site is situated within the Peninsular Ranges Geomorphic Province, which occupies that southwestern portion of California and extends southward to the southern tip of Baja California. In general, the province consists of young, steeply sloped, northwest trending mountain ranges underlain by metamorphosed Late Jurassic to Early Cretaceous-aged extrusive volcanic rock and Cretaceous-aged igneous plutonic rock of the Peninsular Ranges Batholith. The westernmost portion of the province is predominantly underlain by younger marine and non-marine sedimentary rocks. The dominant structural feature of the Peninsular Ranges is northwest-southeast trending crustal blocks bounded by active faults of the San Andreas transform system.

Topography

The project site is characterized by undeveloped terrain and has no existing impervious areas. Under existing conditions, drainage flows to the southeast corner of the site to the northeast corner from two drainage basins, into an existing concrete ditch located on the southeastern corner of the site, and ultimately flows into existing inlets within Corporate Drive, Meyers Avenue, and Barham Drive (see

Appendix F1 for more details). The ground surface at the site generally descends from the southwest to the northeast, and ranges in elevation in approximately 700 to 815 feet. The project site is currently vacant and undeveloped, with areas disturbed from previous agricultural uses. Figure 3.6-1 depicts the existing topography on the project site and in the project vicinity.

Soils

According to the 2017 geotechnical evaluation prepared for the project site by EEI Engineering Solutions, current published regional geologic maps indicate that the project site is underlain by Cretaceous-age undivided tonalite materials (decomposed granitic rock, map symbol Kt). These tonalite materials are considered massive, and typically comprise coarse-grained, light-gray hornblende-biotite tonalite (Appendix F1).

As part of the geotechnical evaluation, 10 hollow-stem auger geotechnical borings at the project site at depths of approximately 8 feet to 21.5 feet below ground surface (bgs). Percolation testing was also performed at one of the boring locations on-site. Soil characteristics were determined for each of the test holes. The results confirmed that the site is underlain by topsoil and Weathered Granitics (Tonalite), as described below.

Topsoil

Orange brown silty-sands with local clayey sands and sandy clay were observed within the middle and northwestern portion of the site, including the proposed roadway section. These materials were observed to be typically dry to slightly moist at the time of the subsurface exploration.

Weathered Granitics (Tonalite)

The decomposed granitic rock materials (tonalite) were observed to consist of light brown, orange-brown, gray, fine- to coarse-grained, highly weathered tonalite, which excavated to mixed sands. The tonalite materials were observed to be typically slightly moist to moist, and dense to very dense. These tonalite materials were encountered within the southern and eastern portion of site, and underlying the soils within the entire site. Refusal on the tonalite (decomposed granitic rock) was encountered at the northeastern portion of the site.

Tonalite can exhibit characteristic rock hardness that could preclude traditional means of excavation for removal and processing. Additional testing of the tonalite's "rippability" (or ease with which the soil or rock can be mechanically excavated) was performed; the complete results of this testing can be found in Appendix F2 of this EIR. The additional testing, summarized in Appendix F2, indicates that rock breaking equipment and/or blasting are likely to be required for some areas of the tonalite. As such, the analysis within this EIR assumes that blasting would be required during excavation of the project site.

Groundwater

Static groundwater was not encountered on-site during the geotechnical evaluation, which investigated whether groundwater was present to depths of 21.5 feet bgs. However, variations in groundwater may result from fluctuations in the ground surface topography, subsurface stratification, rainfall, irrigation, and other factors that may not have been evident at the time of the subsurface exploration.

Seismicity

The project site is located in tectonically active southern California and will likely experience some effects from future earthquakes even though the site is not located within a State of California Earthquake Fault Zone. The type and severity of seismic hazards affecting the project site is chiefly dependent upon the distance to the causative faults, the intensity and duration of the seismic events, and the on-site soil characteristics. Seismic hazards may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction or landsliding.

Surface fault rupture is a break in the ground surface during, or as a consequence of, seismic activity. Fault rupture occurs most often along pre-existing fault traces. According to the geotechnical evaluation, there are no known faults crossing the project site. The nearest known fault to the project site is the Newport-Inglewood/Rose Canyon Fault Zone, located offshore, approximately 13.2 miles west of the project site.

Ground motion occurs when faults rupture at depth where pressures are high and result in earthquakes.

Liquefaction occurs when loose, saturated, generally fine sands and silts are subjected to strong ground shaking. When soils lose shear strength and become liquid, they could potentially result in large total and differential ground surface settlements as well as possible lateral spreading during an earthquake. Seismically induced settlement can occur in response to liquefaction of saturated loose granular soils, as well as the reorientation of soil particles during strong shaking of loose, unsaturated sands. Due to the lack of shallow groundwater and the relatively dense granitic bedrock (tonalite) material at the project site, the potential for liquefaction and dynamic settlement to occur is considered very low.

Paleontological Resources

The study area lies on the western margin of the foothill province of San Diego County, just east of the Coastal Plain Province and to the west of the Peninsular Range's crest. Geologically, this region of northern San Diego County is underlain by Cretaceous, Tertiary, and Quaternary sedimentary deposits, Jurassic-Cretaceous metavolcanic rocks, Cretaceous plutonic rocks, and pre-Cretaceous metamorphic rocks.

Cretaceous age (approximately 145 to 66 million years ago) igneous bedrock, or tonalite, of the Peninsular Ranges Batholith underlies the project area, and is overlain by varying amounts of topsoil, according to the geotechnical report by EEI Engineering Solutions, Inc. (2017), included as Appendix F1 of this EIR. Igneous bedrock has no potential to yield paleontological resources (County of San Diego 2009).

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 emphasize 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, will increase the amount of funding through the Hazard Mitigation Grant Program. California’s updated State Hazard Mitigation Plan was adopted and approved by the Federal Emergency Management Agency (FEMA) Region IX in 2007. The City of San Marcos is one of the communities covered by the 2004 County of San Diego Multi-Jurisdictional Hazard Mitigation Plan, which is a countywide plan that identifies risks posed by natural and man-made disasters. The plan was most recently updated in 2017 (County of San Diego 2017).

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.

USGS Landslide Hazard Identification Program

The United States Geological Survey (USGS), 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. FEMA 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 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 the year 2000, the IBC had replaced these previous codes. The IBC is updated every 3 years.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act is the State law that focuses on hazards from earthquake fault zones. The purpose of this law is to mitigate 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 evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigation.

California Surface Mining and Reclamation Act

Enacted to promote conservation and protection of significant mineral deposits, the California Surface Mining and Reclamation Act requires that all cities address in their General Plans the significant aggregate resources classified by the State Geologist and designated by the State Mining and Geology Board. The law also 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 the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to map areas subject to seismic hazards and requires that a geotechnical evaluation of the site be prepared and appropriate mitigation measures incorporated into the project design before development permits are granted. Additionally, the Act 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 “that 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.” SHMA specifies two ways in which 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 Code of Regulations (CCR), also known as Title 24, California Building Standards Codes contain the laws regarding the construction of buildings. Title 24, Part 2 of the California Uniform Building Code (UBC) specifies standards for geologic and seismic hazards, other than surface faulting. Chapter 23 of the California UBC addresses seismic safety, and includes regulations for earthquake-resistant design and construction. The 2016 Triennial Edition of the California Building Standards Code went into effect January 1, 2017 (California Building Standards Commission 2018).

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 and has been most recently 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).

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 3.10.4, the project is consistent with the applicable General Plan goals and policies pertaining to geology and soils.

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 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

This section provides a project-level impact analysis for all eight thresholds related to geology and soils. The proposed project will be mass graded in one phase over six months. Grading for the proposed project to prepare the proposed project includes 78,800 cubic yards of cut and fill, which is anticipated to be balanced on site. Although it is anticipated that no import or export of earthwork materials will be required, for the purposes of providing a conservative analysis, this EIR assumes that approximately 10,000 cubic yards of export of soil would be required. It was also assumed that 1,000 cubic yards of vegetation from site clearing would be exported.

The project applicant has applied for a grading variance to allow manufactured slopes in excess of 20 feet in height without benching. In addition, due to the underlying geology of the site, construction would require blasting and the use of a rock crusher for materials processing.

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 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, the project site is located in tectonically active southern California. However, no Alquist-Priolo Fault Hazard Zones or other known active faults are located within the project site. The closest known active fault is the Newport-Inglewood/Rose Canyon Fault, located offshore, approximately

13.2 miles west 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, the proposed 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. Impacts would 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?

As discussed under Threshold #1, above, there are no known active faults within the project site. The proposed project would be designed in accordance with the California Building Code (CBC) (2016) for resistance to seismic shaking. The project would be constructed in accordance with other CBC criteria, current seismic design specifications of the Structural Engineers Association of California, other applicable regulations, and all applicable requirements of the State of California Occupational Safety and Health Administration (Cal/OSHA). These required seismic design considerations are used to minimize structural damage in the event of ground shaking.

Additionally, the proposed project would implement all recommendations for the geotechnical evaluation (Appendix F1). These recommendations include general provisions related to the site as well as specific recommendations related to soil and excavation, remedial earthwork, fill materials and placement, slopes, subsurface drainage, foundations, and others. More broadly, ensuring that grading, blasting, and construction activities follow the recommendations of the final geotechnical/soils report is a standard construction practice applicable to all development and required by the California Building Code, Chapter 18 (Soils and Foundation) and the Health and Safety Code Section 17953. These code requirements are enforced through the City's permit issuance process, as specified in Section 17.32.040 of the Municipal Code. The detailed recommendations, including complete removal and recompaction of topsoil or any undocumented fill, using fill material with low expansion potential (expansion index of less than 50) which is free of organic matter, and contacting a specialized contractor for all blasting activities, are included in Chapters 7, 8, 9, and 10 of the geotechnical evaluation (see Appendix F1 of this EIR). Project conditions of approval will require that prior to the issuance of a grading permit for the project, the Development Services Department shall review and approve project design and construction to verify that the recommendations of the geotechnical evaluation have been incorporated. Specifically, Section 17.32.040(f) of the Municipal Code requires the incorporation of recommendations of geotechnical reports into grading plans prior to the approval of a grading permit.

With adherence to all regulations and recommendations, impacts related to seismic ground shaking would be 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 geotechnical mapping, subsurface exploration, and laboratory testing, the project site is not identified as being susceptible to liquefaction. No shallow groundwater was identified on-site, and soils consist of relatively dense granitic bedrock (tonalite) material. The potential for liquefaction or dynamic settlement to occur is considered very low. Note also that the project site is identified in the City's Safety Element as having "Zero Susceptibility" to landslides/liquefaction (Figure 6-1 of the General Plan). As such, the project site is thus not considered susceptible to liquefaction or significant amounts of seismic settlement.

Furthermore, the project would implement all remedial grading and drainage recommendations contained within Chapter 7, 8, 9 and 10 of the geotechnical evaluation (Appendix F1), as described above. For instance, masonry retaining walls included in the proposed project would be required to be constructed to resist hydrostatic pressure. Further, prior to site preparation and grading, removal of all debris and other deleterious materials from the site would be required. Therefore, the project would not result in seismic-related ground failure, including liquefaction. 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 and surrounding area are slightly to moderately sloping. However, because the project site is underlain at shallow depth with massive hard and very hard granitic bedrock (tonalite), the potential for landslides or slope instabilities to occur on-site are expected to be negligible. As described in Section 3.6.1 of this EIR, due to underlying geology of the site, blasting would be required during construction for the removal of hard rock. Blasting and site construction could have potential to affect slope stability. As indicated in the Supplemental Geotechnical Evaluation performed by EEI Engineering Solutions, Inc included as Appendix F2, air-track exploratory borings were drilled at the project site to depths ranging from 21 feet to 30 feet below existing grade, to approximately the proposed depth cut, or roughly 5 feet below the proposed grade cut. The Supplemental Geotechnical Evaluation found that marginally rippable to non-rippable rock are expected at depths of 4 to 8 feet and 10 to 15 feet below existing grade. As such, controlled blasting is anticipated for localized zones at fairly shallow depths during grading/excavation of the project site during construction. Per the recommendations of the geotechnical evaluation, when blasting is required to remove observed boulders and granitic outcrops

on site, a contractor specialized in controlled blasting or non-blasting methods will be contracted to assess the site conditions and minimize the effect to adjacent properties. As required for the issuance of a grading permit, a soils engineering report prepared by a geotechnical engineer containing data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary, is required to be incorporated into grading plans. While the Supplemental Geotechnical Evaluation provided preliminary soils evaluation, a final soils report will be required prior to grading, which will provide recommendations and requirements for soil stability during grading and blasting of the site. Further, a grading permit will not be issued in any case where the work as proposed by the applicant is likely to adversely affect the stability of adjoining properties or create other such hazards. Refer also to Section 3.11, Noise, of this EIR for further discussion of blasting related to noise/vibration.

Additionally, as discussed in Chapter 2, Project Description, of this EIR, the project would pursue a grading variance for several slopes within the project site which exceed 20 feet in height. This variance would allow for shorter slopes that would be combined with a retaining wall for slope stability (refer to Figure 2-11). Without the grading variance, the site would require narrower development areas, separated by an access driveway through the middle of the site. The variance also allows for a more efficient grading plan by requiring less landform modification, reducing the project footprint, and provides for a more cohesive development. The grading variance also reduces the overall height of the project than without. With implementation of the project's retaining walls and other geotechnical requirements, the grading variance would not increase the potential for landslide risk.

As such, with incorporation of the recommendations outlined in the geotechnical investigation as required for grading permit issuance (described above), the project would not result in the risk of loss, injury, or death involving landslides. Impacts would be less than significant.

Threshold #5: Would the project result in substantial soil erosion or the loss of topsoil?

The geotechnical evaluation presents earthwork specifications and grading details for the proposed project. As discussed in Chapter 2, Project Description, of this EIR, a grading variance would be required for several slopes within the project site which exceed 20 feet in height. All slopes, including proposed cut and fill slopes, are potentially susceptible to surficial slope failure or erosion. Thus, the following erosion control recommendations outlined in the geotechnical evaluation would be part of the project design:

- All proposed cut and fill slopes would be constructed at an inclination of 2:1 slope ratio or flatter.
- Faces of fill slopes would be compacted either by rolling with a sheep-foot roller or other suitable equipment, or by overfilling and cutting back to design grade.
- Water would not be allowed to flow over the top of slopes.
- Slopes would be planted with vegetation that would reduce potential for erosion.

The proposed project would also be developed consistent 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. As such, with acquisition of the required grading variance, compliance with City requirements, and incorporation of the recommendations outlined in the geotechnical evaluation, the proposed project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant. Refer also to Section 3.9, Hydrology and Water Quality, regarding additional erosion discussion.

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?

Per the recommendations of the geotechnical evaluation (Appendix F1 and described above), where not already removed by the proposed site grading, topsoil or any undocumented fill encountered should be completely removed and recompact within the limits of grading, receive additional fill, proposed buildings and other settlement-sensitive improvements. Site preparation, removals, and excavation would be performed consistent with Chapter 7 of the geotechnical evaluation. Specifically, grading 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 should be properly cut and/or benched in accordance with current industry standards of practice, guidelines specific to CBC (2018), and the City of San Marcos. Estimated removal depths would be a minimum depth of 6 inches. Refer also to the discussion regarding slopes, above.

As such, the proposed project would incorporate techniques and design measures, outlined in the geotechnical evaluation as required for grading permit issuance that would minimize the potential for unstable conditions that could result in on- or off-site, lateral spread, subsidence, liquefaction or collapse. Impacts 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?

Per the County's General Plan Safety Element, the southern parcel of the project site is not located in an area indicated to contain expansive soils (refer to Figure S-4 of the County's General Plan). According to the geotechnical evaluation prepared by EEI Engineering Solutions, Inc (Appendix F1), near surface on-site soils have a predominantly very low expansion potential, which is not expected to pose a hazard on the proposed project. However, localized clayey soils could potentially have a low to medium expansion potential. Thus, the geotechnical evaluation recommends that these soils be further evaluated during future studies or during earthwork when the proposed building pads are near the finish grade. The geotechnical evaluation also includes recommendations that expansive or clayey soils are not used for backfill materials. With adherence to the geotechnical report 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 proposed project would include additional sewer improvements (see Section 3.17, Utilities and Service Systems for details). The project does not propose the use of septic tanks or alternative wastewater disposal. No impact would occur.

Threshold #9: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Ground-disturbing activities have the potential to unearth previously unidentified paleontological resources. However, as identified above, the project site is underlain by igneous bedrock, which has no potential to yield paleontological resources (County of San Diego 2009). As such, the project is not expected to directly or indirectly destroy a unique paleontological resource. The geotechnical report prepared for the project by EEI Engineering Solutions, Inc. (2017) did not identify any unique geologic features on the project site. The geotechnical report is included as Appendix F1 of the EIR. As such, impacts would be less than significant.

3.6.5 Cumulative Impact Analysis

A “cumulative impact” refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project’s cumulative impact with respect to geology and soils, the cumulative analysis is based upon a list approach to determine the proposed project’s contributing effect on potential cumulative impacts on related to geology and soils. All of the cumulative projects identified in Table 2-3 are considered in this cumulative 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 varies 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 proposed project and would be required to adhere to applicable regulations, standards, and procedures. The nearest cumulative project, Valiano, is located to the southwest. Construction phasing, including earthwork, may overlap with the project. While the Valiano

project site is located within approximately 0.25 miles of the project site, construction would not extend to the edge of Valiano's north/northeastern-most project boundary. Rather, development would be limited to a water reservoir, and construction activity would be substantially set back from the nearest Valiano project boundary relative to the proposed project site. Given the distance of the proposed project to the nearest cumulative project and with adherence to geotechnical regulations, standards, and procedures, the project would not result in a cumulatively considerable impact to geology, soils, or seismicity.

Further, as discussed in Section 3.6.4, the project site has no potential to yield paleontological resources (County of San Diego 2009). Thus, impacts to paleontological resources from implementation of the project would be less than significant. Some of the projects on the cumulative list are located in areas that support alluvial soils. Certain types of alluvial soils have the potential to contain paleontological resources. Similar to the project, the presence of these resources is typically unknown until earthwork activities commence for project construction. It is expected that cultural resources studies would be prepared for all cumulative projects to assess potential impacts. For the cumulative projects that are within sensitive areas for paleontological resources, the expectation is that mitigation measures would be included to require consultation with a paleontologist or a construction monitor to ensure that impacts to this resource do not occur. As such, the proposed project would not result in significant cumulative impacts for geology and soils.

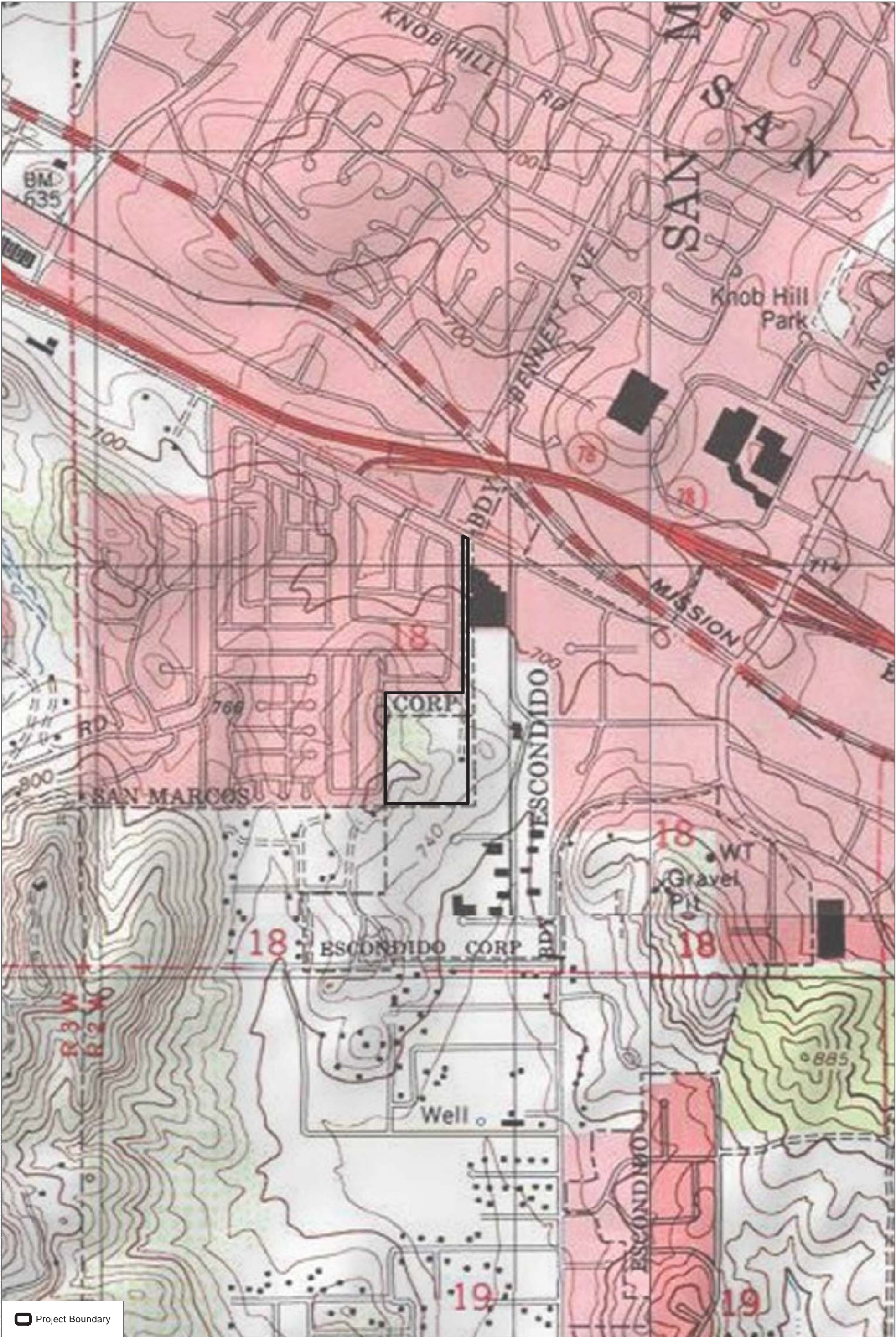
3.6.6 Mitigation Measures

Based upon the analysis presented in Sections 3.6.4 and 3.6.5, all project- and cumulative-level geology and soil impacts will be less than significant. No mitigation is required.

3.6.7 Conclusion

Based upon the analysis presented in Sections 3.6.4 and 3.6.5, impacts associated with seismicity, liquefaction, landslides, erosion/loss of topsoil, compressible soils, expansive soils, and paleontological resources were determined to be less than significant. The project will adhere to all recommendations in the geotechnical evaluation prepared for the project.

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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle

FIGURE 3.6-1
Site Topography

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3.7 GREENHOUSE GAS EMISSIONS

This section describes the potential for the proposed project to have impacts related to greenhouse gas (GHG) emissions. This section describes the existing setting of the project site related to GHG emissions and climate change, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures (if needed) related to implementation of the Sunrise Specific Plan (proposed project). Information for this section relies on the greenhouse gas study prepared for the proposed project. The complete Air Quality and Greenhouse Gas Emissions Technical Report is included as Appendix C of this environmental impact report (EIR).

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

Global Climate Change

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 (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere near the Earth's surface. This natural process contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs into 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.

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere and contribute to the greenhouse effect. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).¹ Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted to the atmosphere through natural processes and human activities. GHGs, sources of GHG emissions, and global warming potential are described in detail in Appendix C. Currently, the project site is undeveloped and does not generate GHG emissions.

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 C.

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—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—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—CO₂, CH₄, N₂O, 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.

¹ California Health and Safety Code, Section 38505, identifies seven GHGs that CARB is responsible for monitoring and regulating to reduce emissions: CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, and nitrogen trifluoride (NF₃).

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:

1. 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.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct 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.
3. 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 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 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion metric tons (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).

On September 27, 2019, EPA and NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (84 Fed. Reg. 51,310), which became effective November 26, 2019. The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. The Part One Rule also impacted some of the underlying assumptions in the California Air Resources Board (CARB) EMFAC2014 and EMFAC2017 models for criteria air pollutant emissions from gasoline light-duty vehicles, and CARB released off-model adjustment factors for EMFAC’s criteria air pollutants estimation on November 20, 2019, primarily for use in federal Clean Air Act conformity demonstration analyses. CARB expects Part Two of these regulations to be adopted by the EPA and NHTSA in the fall of 2019. However, because CARB does not know the full impacts of these rules until Part Two is released, no off-model adjustments factors are available for GHG emissions at this time. In addition, the EMFAC off-model adjustments have not yet been incorporated into CalEEMod. This issue is evolving as California and 22 other states, as well as the District of Columbia and two cities, filed suit against the EPA over the vehicle waiver revocation on November 15, 2019, and a petition for reconsideration of the rule was filed on November 26, 2019, by California and 22 other states, the District of Columbia, and four cities.

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 executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

Executive Order S-3-05. Executive Order (EO) S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

Assembly Bill 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.

Executive Order B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

California Air Resources Board's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.

3.7 Greenhouse Gas Emissions

4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR 95480 et seq.).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent global warming potentials identified by the IPCC, from 427 million metric tons (MMT) CO₂e to 431 MMT CO₂e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the legislature affirmed the importance of addressing climate change through passage of SB 32.

3.7 Greenhouse Gas Emissions

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan) for public review and comment (CARB 2017). The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increasing stringency of the LCFS, implementing measures identified in the Mobile Source and Freight Strategies, implementing measures identified in the proposed *Short-Lived Climate Pollutant Reduction Strategy*, and increasing stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program.

When discussing project-level GHG emissions reduction actions and thresholds in the context of the California Environmental Quality Act (CEQA), the 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognizes that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provides that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

Executive Order B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide 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 statewide GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05.

Senate Bill 32 and Assembly Bill 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction target; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, 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 CARB 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 (TACs) from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes 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. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. 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 2016 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2017. The 2016 Title 24 standards will further reduce energy used and associated GHG emissions. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2017).

The 2019 Standards (such as the requirement for solar photovoltaic systems on all residential development, encourage demand responsive technologies) will continue to improve upon the 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 Standards will go into effect on January 1, 2020. Residential buildings built under the 2019 Title 24 Standards would use about 53% less energy than those built under the 2016 Title 24 Standards (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The 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 2016 standards became effective on January 1, 2017. The mandatory standards require mandatory reduction in indoor and outdoor water use, diversion of demolition waste, mandatory inspections of energy systems, inclusion of electric vehicle charging stations for designated parking spaces and use of low-pollutant-emitting exterior and interior finish materials. The CALGreen 2019 standards will continue to improve upon the 2016 CALGreen standards and will go into effect on January 1, 2020.

Renewable Energy and Energy Procurement. SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities. Initially, the RPS required utilities to obtain 20% of their power from renewable sources by 2010. SB X1-2 (2011) subsequently expanded the RPS by establishing that 33% of the total electricity sold to retail customers in California per year by December 31, 2020, and in subsequent years, be secured from qualifying renewable energy sources. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. And, SB 100 (2018) has further accelerated the RPS, requiring achievement of a 50% RPS by December 31, 2026 and a 60% RPS by December 31, 2030. SB 100 also established a new state policy goal that calls for eligible renewable energy resources and zero-carbon resources to supply 100% of electricity retail sales and 100% of electricity procured to serve all state agencies by December 31, 2045.

Under the program, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 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.

State Vehicle Standards. AB 1493 requires CARB to set GHG emission standards for passenger vehicles and EO S-1-07 sets a declining Low Carbon Fuel Standard to reduce the carbon intensity of California passenger vehicle fuels. The Advanced Clean Cars Program is an emissions control program to reduce smog-forming pollution, GHG emissions, promote clean cars, and provide fuels for clean cars. EO B-16-12 supports and facilitates development and distribution of Zero Emissions Vehicles. As explained under the “Federal Vehicle Standards” description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One, which revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. As the EPA rule is the subject of pending legal challenges, and no GHG adjustment factors have been issued for EMFAC by CARB, this analysis continues to utilize the best available information at this time, as set forth in EMFAC.

Senate Bill 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a 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.

3.7 Greenhouse Gas Emissions

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. 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 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 (CARB 2019).

SANDAG completed and adopted its *2050 Regional Transportation Plan/Sustainable Communities Strategy* (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 the 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 EIR 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, the 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.

Senate Bill 350. In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. 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).

Local

City of San Marcos Climate Action Plan

The City adopted its Climate Action Plan (CAP) in September 2013. The CAP provides a GHG inventory for the community and municipal sectors establishing a baseline year of 2005 (City of San Marcos 2013). The City's operational GHG emissions totaled 411,939 MT CO₂e in 2005. The CAP establishes a target of 15% below 2005 levels in 2020, and 28% below 2005 levels in 2030. In order to attain these goals, the CAP contains recommended local GHG reduction measures. The majority of the actions described in the CAP are not project specific and include City-wide actions in which the City should implement by the target year. Some of the measures included in the CAP that will help the City reach its intended GHG reduction targets include:

- Facilitate sustainable development based on smart growth principles.
- Continue to expand and improve the City's bicycle and pedestrian network.
- Continue to expand and improve the transit network and its accessibility within San Marcos.
- Expand the availability and use of alternative fuel vehicles and fueling infrastructure.
- Require projects seeking discretionary approval from the City to implement all feasible measures for reducing GHG emissions associated with construction equipment.
- Promote xeriscaping to reduce yard trimmings and landscape maintenance.
- Increase recycling, composting, source reduction, and education efforts throughout San Marcos to reduce the amount of solid waste sent to landfills.

Climate action measures include the following:

- **E-2 Energy Efficient New Construction** – The City shall increase the efficient use of energy and conservation of available resources in the design and construction of new buildings.
 - **E-2.1:** The City shall develop and/or promote incentives (e.g., expedited plan review, public recognition, existing state and utility financial incentives, etc.) for projects that voluntarily exceed Title 24 Energy Efficiency Building Standards.
 - **E-2.2:** The City shall provide green building resources and promote workshops offered by community organizations.
 - **E-2.3:** The City shall provide public recognition of Zero Net Energy projects built in advance of state requirements.

- **E-4 Smart Meters** – The City shall increase the community’s awareness, understanding, and use of real-time energy consumption data and pricing available through SDG&E’s Smart Meter program.
 - **E-4.1:** The City shall assist SDG&E in its efforts to educate residents and business owners about Smart Meters, how to monitor electricity use, and the potential benefits associated with Smart Meters.
 - **E-4.2:** The City shall inform the community of smart metering options, such as online applications and in-home monitors.
 - **E-4.3:** The City shall connect residents and businesses with rebate and incentive programs that give priority to appliances with smart grid technology through the City’s website.
- **E-5 On-Site Small-Scale Solar Energy** – The City shall facilitate the installation and use of on-site small-scale energy systems, such as solar PV systems and other solar water heaters.
 - **E-5.1:** The City shall encourage local homebuilders to participate in the New Solar Homes Partnership to install solar PV systems on qualifying homes.
 - **E-5.2:** The City shall expand education on and promotion of existing incentive, rebate, and financial programs for solar PV systems and solar hot water heaters, such as those offered through the California Solar initiative, targeting specific groups or sectors within the community.
- **O-1 Construction Equipment Efficiency and Fuels** – Require projects seeking discretionary approval from the City to implement all feasible measures for reducing GHG emissions associated with construction equipment.
 - **O-1.1:** Through the construction permitting process, limit construction vehicle and equipment idling to 3 minutes and require the project applicant to post clear signs for workers at the entrances to the site.
 - **O-1.2:** Through the construction permitting process, require a percentage of construction vehicles and equipment to use equipment with new technologies (repowered engines, electric drive trains), use CARB-approved low carbon fuel, or be electrically-powered.
- **O-2 Lawn and Garden Equipment** – The City shall promote xeriscaping to reduce yard trimmings and landscape maintenance.
 - **O-2.1:** The City shall provide educational workshops and training to promote the installation of low-maintenance native landscaping in new and existing developed lots and remove turf to reduce lawn and garden equipment usage.
- **T-1 Smart Growth** – The City shall facilitate sustainable development based on smart growth principles.

3.7 Greenhouse Gas Emissions

- **T-1.1:** The City shall provide and promote incentives for smart growth identified in the General Plan.
- **T-1.2:** The City shall work with SANDAG in the updates to the Smart Growth Concept Map.
- **T-1.3:** Through the development review process, the City shall evaluate development projects based on consistency with the City's adopted General Plan 2030, updated zoning regulations, and applicable design guidelines, as well as SANDAG Smart Growth publications, including Designing for Smart Growth, Creating Great Places in the San Diego Region (2009) and Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region (2002).

The City is currently updating its CAP to comply with the State's SB32 requirements to reduce GHG emissions to 40 percent below the 1990 levels by 2030.

City of San Marcos General Plan

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

Land Use and Community Design Element

- **Goal LU-2:** Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.
 - **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.

Conservation and Open Space Element

- **Goal COS-4:** Improve regional air quality and reduce GHG emissions that contribute to climate change.
 - **Policy COS-4.3:** Participate in regional efforts to reduce GHG emissions.

- **Policy COS-4.4:** Quantify community-wide and municipal GHG emissions, set a reduction goal, identify and implement measures to reduce GHG emissions as required by governing legislation.
- **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.

Mobility Element

- **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 GHG emissions; and reinforces the role of the street as a public space that unites the City.

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

3.7.3 Thresholds of Significance

The State of California has developed guidelines to address the significance of greenhouse gas 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.

Neither the State of California nor the SDAPCD has adopted emission-based thresholds of significance for GHG emissions under CEQA.

The CEQA Guidelines provide that in determining the significance of impacts from GHG emissions, an agency may consider the extent to which the project complies with a local plan for the reduction or mitigation of GHG emissions. (See CEQA Guidelines Sections 15064.4(b)(3), 15183.5.). As indicated above, the City has adopted such a plan. Accordingly, for purposes of GHG Threshold #1, the project's GHG emissions are assessed by evaluating the project's consistency with the City's CAP, which is discussed below in detail.

3.7 Greenhouse Gas Emissions

For purposes of GHG Threshold# 2, the project is assessed based on its potential to conflict with the City's CAP, SANDAG's Regional Plan, and CARB's Scoping Plan. The Regional Plan and Scoping Plan goals and measures are analyzed against the project as part of the consistency analysis. The potential for the project to conflict with these plans is addressed in detail in Section 3.7.4, below.

City of San Marcos Climate Action Plan Significance Criteria

Consistent with the CEQA Guidelines and the CAP, each new project within the City subject to CEQA is evaluated relative to the following criteria:

1. All projects must demonstrate that project emissions have been accounted for in the CAP inventory. This is most commonly demonstrated through land use consistency with the General Plan land use designations. If a project is inconsistent with the land use and/or zoning regulations on which the CAP emissions modeling and thresholds are based, the applicant must establish that buildout of the project would emit fewer GHGs than buildout of the existing land use accounted for in the CAP.
2. Additionally, projects must demonstrate compliance with the CAP by completing the consistency worksheet. If not all mandatory actions outlined in the worksheet are feasible, the applicant may utilize substitute measures if equivalent reductions can be determined.
3. If a project is determined to be inconsistent with the CAP by failing to meet either step one or two, the project must demonstrate that the project would not substantially interfere with implementation of the CAP measures and actions. The project must demonstrate how the project will achieve its share of the established CAP targets by demonstrating that the project's amortized construction and operational emissions would not exceed the CAP's efficiency threshold.

City of San Marcos Efficiency Metric

The Association of Environmental Professionals (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation, or EOs. Consistent with AEP Climate Change Committee recommendations, horizon year GHG impacts are analyzed in terms of whether the project would impede "substantial progress" toward meeting the reduction goal identified in SB 32 and EO S-55-18. As SB 32 is considered an interim target toward meeting the 2045 state goal, consistency with SB 32 would be considered contributing substantial progress toward meeting the state's long-term 2045 goals. Avoiding interference with, and making substantial progress toward, these long-term state targets is important as these targets have been set at levels that reduce California's fair share of emissions toward international targets that will stabilize global climate change effects and avoid the adverse environmental consequences described herein.

3.7 Greenhouse Gas Emissions

With that introduction, efficiency metrics are quantitative measurements of GHG efficiency for a given project and can be used to identify the emission level below which new development would not interfere with attainment of statewide GHG reduction targets. For purposes of this analysis, a locally appropriate 2030 project-specific threshold is derived from CARB's recommendations in the 2017 Scoping Plan.

More specifically, as used in this analysis, the efficiency metric was calculated by dividing statewide GHG emissions by the sum of statewide jobs and residents. To ensure the metric was tailored to local conditions, the City's jurisdictional area was evaluated to identify emissions sectors that are present and will be directly affected by potential land use changes proposed by the project. A description of major sources of emissions that are included in the 2017 Scoping Plan emissions sectors and representative sources in the City can be found in Table 3.7-2.

According to the City's CAP, the Agriculture Sector GHG emissions have been deemed to be de minimis, or insignificant, and removed from local GHG inventory accounting. Additionally, minimal Industrial Sector GHG emissions are present in the City's planning area, and the Industrial Sector GHG emissions are removed. Lastly, Cap and Trade GHG emission reductions occur independent of any local jurisdictional land use decisions and are also excluded from the locally appropriate target calculation.

After removing Agricultural, Industrial, and Cap and Trade Sector GHG emissions, the remaining emission sectors with sources within the City's planning area are then summed to quantify a locally appropriate emissions total for a residential project in the City. This locally appropriate emissions total is divided by the statewide 2030 service person population to determine a locally appropriate, project-level threshold of 3.2 metric tons of carbon dioxide equivalent (MT of CO₂e) per service population that is consistent with SB 32 targets, as shown in Table 3.7-2. Therefore, for this analysis, the project would be compliant with the SB 32 target if project emissions are below the locally-appropriate 3.2 MT CO₂e per service population efficiency metric, which is substantial progress toward climate stabilizing targets in 2045.

Table 3.7-2
CARB's California's 2017 Climate Change Scoping Plan Emissions Sector Targets¹

GHG Emissions Sector	2030 State Emissions Target (MMT CO ₂ e)	Locally Appropriate ²	Project Specific	Major Sources
Residential and Commercial	38	Yes	Yes	Natural gas end uses, including space and water heating of buildings
Electric Power	53	Yes	Yes	Electricity uses, including lighting, appliances, machinery and heating
High GWP	11	Yes	Yes	SF ₆ from power stations, HFCs from refrigerants and air conditioning ³
Recycling and Waste	8	Yes	Yes	Waste generated by residential, commercial, and other facilities.
Transportation	103	Yes	Yes	Passenger, heavy duty, and other vehicle emissions.

Table 3.7-2
CARB's California's 2017 Climate Change Scoping Plan Emissions Sector Targets¹

GHG Emissions Sector	2030 State Emissions Target (MMT CO ₂ e)	Locally Appropriate ²	Project Specific	Major Sources
Industrial	83	No	No	Oil, gas, and hydrogen production; refineries; general fuel use; and mining operations ⁴ do not occur substantially within the City and are not a part of the project.
Agriculture	24	No	No	Enteric fermentation, crop residue burning, and manure management do not occur substantially within the City and are not included as part of the project. ⁵
Cap and Trade Reductions	-60	No	No	Reductions from facilities emitting more than 10,000 MT CO ₂ e per year. ⁶
Scoping Plan Target (All Sectors)	260	No	No	All emission sectors
2030 Locally Applicable Emissions Sectors	213	Yes	Yes	Emissions applicable to the local planning area
Locally Appropriate Project-Specific Threshold Calculations				Metric
CARB's 2017 Climate Change Scoping Plan	California 2030 Population ⁷			43,939,250
	California 2030 Employment Projection ⁸			23,459,500
	2030 Service Population			67,398,750
Locally Appropriate 2030 Project Threshold	2030 Locally-Appropriate Emissions Sectors (MT CO ₂ e)			213,000,000
	2030 Service Population			67,398,750
	2030 Service Population Target (MT CO₂e per Service Population)⁹			3.2

Notes: CARB = California Air Resources Board; GHG = greenhouse gas; GWP = global warming potential; SF₆ = sulfur hexafluoride; HFC = hydrofluorocarbon; MMT = million metric tons; MT = metric tons; CO₂e = carbon dioxide equivalent; CAP = Climate Action Plan; City = City of San Marcos.

¹ All state targets in million metric tons of CO₂e; see CARB's 2017 Climate Change Scoping Plan, Page 31 for sector details (CARB 2017).

² Locally appropriate is defined as having significant emissions in the Scoping Plan categories within the planning area.

³ SF₆ is used primarily as an insulator in electrical substations while HFCs can be found in many residential and commercial refrigeration and air conditioning units. HFCs are in the process of being phased out through 2036 in most developed countries.

⁴ The majority of this sector is not applicable to the local planning area and any potential applicable subsectors cannot be disaggregated due to the CARB accounting methods. Therefore, the entire sector has been removed to ensure a more conservative target.

⁵ The 2013 City's CAP identified agricultural emissions as de minimis, or insignificant, and are excluded as an emissions sector. Therefore, this sector is considered not locally appropriate.

⁶ Cap and Trade is excluded as reductions will occur independent of local project land use decisions and are therefore not locally appropriate.

⁷ California Department of Finance State Population Projections, <http://www.dof.ca.gov/Forecasting/Demographics/projections/>

⁸ Average employment range projections under implementation scenario, CARB's 2017 Climate Change Scoping Plan, page 55 (CARB 2017).

⁹ Total of 3.16 has been rounded up per Scoping Plan general methodology. Lead agencies may determine this threshold as they deem appropriate.

Analysis Approach and Methodology

Construction

CalEEMod Version 2016.3.2 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, rock crushing generator, blasting, off-site improvement blasting, off-site improvements, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Chapter 3.2, Air Quality, are also applicable for the estimation of construction-related GHG emissions. As such, please refer to Section 3.2, Air Quality, for a discussion of construction emissions calculation methodology and assumptions.

Operation

CalEEMod Version 2016.3.2 was used to estimate potential project-generated operational GHG emissions from vehicular sources, area sources (natural gas combustion and landscape maintenance), electrical generation (including electrical generation associated with water supply and wastewater treatment), and solid waste. Emissions from each category—area sources, energy sources, mobile sources, solid waste, and water supply and wastewater treatment—are discussed in the following text with respect to the project.

Area Sources

CalEEMod was used to estimate GHG emissions from the project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions. No hearths or woodstoves would be included in the project design; therefore, they were not included in the CalEEMod analysis.

Energy Sources

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the project. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for San Diego Gas & Electric, which would be the energy source provider for the project. The project would meet the 2016 California Building Energy Efficiency Standards (24 CCR, Part 6) at a minimum. Based on the project's timeline, compliance with the 2019 Title 24 standards would be more likely. Thus, the project operational energy emissions were adjusted to meet the 2019 Title 24 Standards.

3.7 Greenhouse Gas Emissions

The project would install smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems, where practical, which would reduce lighting energy by 20%. The project would also design roofing structure to accommodate the additional structural load of solar panels and pre-wire to allow for the flexibility for possible future installation. It was calculated that homes built under the 2019 Title 24 standards would use about 53% less energy than those under the 2016 Title 24 standards (Appendix C).

Mobile Sources (Motor Vehicles)

Mobile sources for the project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on the project-specific traffic report prepared for the project by Linscott, Law & Greenspan, the proposed residential development is anticipated to generate eight trips per dwelling unit (Appendix C), which was estimated for the weekday trip rate. A 5% reduction for proximity to high quality, multi-modal Nordahl Station and the Class I Inland Rail Trail bikeway was applied, see pages 25–26 of the Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C). Accordingly, the 192 dwelling units would generate approximately 1,536 trips per day during the week. Because the default CalEEMod weekday trip rates for multifamily homes differed from the estimated project trip rate, the project weekend trip rates were adjusted. Furthermore, SANDAG's average trip length of 7.9 miles for residential was used for the analysis (SANDAG 2002). CalEEMod default data, including trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources. Project-related traffic was modeled to include a mixture of vehicles in accordance with the model outputs for traffic. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.² Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full buildout of the project.

Each residential garage would be pre-wired for a 220-volt electric vehicle charging station.

Solid Waste

The project would generate solid waste and therefore would result in CO_{2e} emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. Project compliance with the 75% diversion rate by 2020, consistent with AB 341 (25% increase from the solid waste diversion requirements of AB 939, Integrated Waste Management Act), has been included in the GHG assessment.

² Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix (vehicle class distribution including automobiles, trucks, buses, motorcycles) provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC Version 2014, was applied.

3.7 Greenhouse Gas Emissions

The project would include interior and exterior storage areas for recyclables, food waste, and green waste at all buildings.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values.

For indoor water use, the project would install low-flow bathroom and kitchen faucets, low-flow toilets, and low-flow showers. For outdoor water, the project would install water-efficient devices and landscaping in accordance with applicable ordinances, including use of drought-tolerant species appropriate to the climate and region, which would reduce water use associated with landscaping. It was estimated that the project would apply a water conservation strategy resulting in a 20% reduction in indoor water use per CALGreen and a minimum 20% reduction in outdoor water use.

City of San Marcos' General Plan Land Use Designation

The City's GHG inventory, on which the City's CAP reduction targets were based, is based on the land use as designed in the City's General Plan. A General Plan Amendment (GPA) is required to re-designate the southern parcel of the project site (APN 228-312-10) from Semi-Rural Residential (SR-1; as currently designated by the County of San Diego) and Light Industrial (LI; as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a GPA is required to re-designate the northern parcel of the project site (APN 228-312-09) from Low Density Residential (LDR) to SPA.

Based on the County of San Diego's General Plan, the maximum floor area ratio is 0.6 for the LI land use (Appendix C); thus, the 10.8-acre lot (APN 228-312-10) allows for a maximum of 6.48 acres, or 282,269 square feet, of industrial space. The Mobile Home Park (R-MHP) land use was used to assess the LDR designation. The City's General Plan allows for a maximum of 8 dwelling units per acre for Mobile Home Park (R-MHP) land use; therefore, the 3.6-acre lot (APN 228-312-09) allows for a maximum of 29 dwelling units (City of San Marcos 2012). Buildout of the City's General Plan and County of San Diego's General Plan land use designations were modeled as 29 single-family homes and light industrial. CalEEMod default values were used to estimate GHG emissions from area, energy, mobile, waste, and water. Similar to the project, an operational year of 2022 was modeled.

3.7.4 Project Impact Analysis

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?

City of San Marcos' Climate Action Plan Consistency

As discussed in Section 3.7.2, Regulatory Setting, the City has adopted a CAP, which was developed to help reduce the City's GHG emissions. The CAP is the implementation framework that contains the details of recommended GHG reduction measures which the City should implement in order to meet the GHG reduction targets of 15% by 2020 and 28% by 2030 (City of San Marcos 2013). The first step in determining conformance with the CAP is demonstrating that emissions from the project were accounted for in the CAP.

The City's CAP reduction targets were based on the land use as designed in the City's General Plan, which was the land use modeled in the CAP's GHG inventory. Thus, projects that are not consistent with the land use designation at the time the CAP was developed must demonstrate that buildout of the proposed land use will result in fewer emissions than buildout of the existing land use designated in the General Plan to be consistent with the CAP. To evaluate the potential emissions from buildout of the existing land uses in the General Plan, the industrial and residential land uses were modeled using CalEEMod Version 2016.3.2. As detailed in Appendix C, buildout of the City's General Plan and County of San Diego's General Plan land use designations were modeled as 29 single-family homes and light industrial to be compared to the GHG emissions generated by buildout of the project. Where applicable, compliance with regulations included in the modeling of the project, such as reducing the utility electricity intensity factors as per the RPS and buildout year of 2022 were modeled.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, blasting, off-site improvements, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix C.

Table 3.7-3 shows the estimated annual GHG construction emissions associated with the project, as well as the annualized construction emissions over a 30-year period (SCAQMD 2008).

Table 3.7-3
Estimated Annual Construction Greenhouse Gas Emissions

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	<i>metric tons</i>			
2020 (Construction)	564.41	0.13	0.00	567.70
2020 (Sewer Option #2)	12.20	<0.01	0.00	12.21
2021	971.18	0.19	0.00	976.05
Total	1,531.89	0.33	0.00	1,540.06
30-Year Amortized Construction Emissions				51.34

Source: Appendix C. See Appendix C for complete results. The total emissions per year are an aggregate of the CalEEMod runs in Appendix C.

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent. Blasting and rock crushing was assumed to occur in the grading phase, including utility undergrounding (2020). Sewer Option #2 offsite improvements was assumed to occur in the grading phase (2020). Sewer Option #2 off-site improvements was assumed to occur in the grading phase (2020). Sewer Option #2 construction emissions include blasting, rock crushing, generator, and haul truck trip emissions.

Estimated 30-year amortized project-generated construction emissions would be approximately 51.34 MT CO₂e per year. However, as there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis below.

Operational Emissions

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational parameters described in Appendix C. The project modeled compliance with the 2019 Title 24 standards; thus, reductions from project's compliance with 2019 Title 24 standards at the time of project buildout were included.

The estimated operational (Year 2022) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 3.7-4.

Table 3.7-4
Estimated Annual Project Operational Greenhouse Gas Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	<i>metric tons per year</i>			
Area	2.33	0.00	0.00	2.39
Energy	325.74	0.01	0.00	327.08
Mobile	1,380.66	0.07	0.00	1,382.50
Solid waste	4.83	0.29	0.00	11.96

Table 3.7-4
Estimated Annual Project Operational Greenhouse Gas Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	<i>metric tons per year</i>			
Water supply and wastewater	52.02	0.35	0.01	63.44
Total	1,765.58	0.73	0.01	1,787.37

Source: Appendix C. See Appendix C for detailed results.

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

As shown in Table 3.7-4, annual emissions of the project would be approximately 1,787.37 MT CO₂e per year.

The project's proposed change in land use was not accounted for in the development of the CAP. Therefore, the emissions from the project must be compared to those emissions that would occur if the land use assumed in the development of the CAP were built out. Table 3.7-5 presents the annual GHG emissions from the buildout of the General Plan land use if it was to have the same initial operational year as the project.

Table 3.7-5
Estimated Annual General Plan Buildout Operational Greenhouse Gas Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	<i>metric tons per year</i>			
Area	42.88	0.03	0.00	44.28
Energy	806.27	0.03	0.01	809.50
Mobile	2,611.03	0.13	0.00	2,614.30
Solid waste	77.96	4.61	0.00	193.13
Water supply and wastewater	226.34	2.20	0.05	297.13
Total	3,764.47	6.99	0.06	3,958.34

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

See Appendix C for detailed results.

As shown in Table 3.7-5, annual emissions of buildout of the General Plan land use designations would be approximately 3,958.34 MT CO₂e per year.

Table 3.7-6 presents the annual GHG emissions from the buildout of the project and existing General Plan land use designations buildout.

Table 3.7-6
Estimated Annual Project and General Plan Buildout Operational Greenhouse Gas Emissions

Emission Source	CO₂e (metric tons per year)
Project operation emissions	1,787.37
Amortized construction emissions	51.34
<i>Project buildout emissions</i>	<i>1,838.71</i>
<i>General Plan buildout emissions</i>	<i>3,958.34</i>
<i>Exceeds General Plan buildout?</i>	<i>No</i>

Notes: CO₂e = carbon dioxide equivalent.
See Appendix C for detailed results.

As shown in Table 3.7-6, estimated GHG emissions generated by project buildout (operation plus amortized construction) would be approximately 1,838.71 MT CO₂e per year. Buildout of the existing General Plan land use designations would result in 3,958.34 MT CO₂e in annual emissions. As illustrated below, however, the proposed project would generate significantly fewer GHGs per year than the buildout of the permitted land use; therefore, the proposed land use change would not result in an increase in GHG emissions compared to the existing zoning or conflict with the CAP. The project would be less GHG intensive than the General Plan-compliant development. Furthermore, the project would be consistent with the actions in the CAP Consistency Worksheet (Appendix C).

The City's CAP Consistency Worksheet also has been completed for the project (Appendix C). The CAP Worksheet includes specific mandatory and voluntary actions, generally outlined in the General Plan or Municipal Code. The project would be consistent with all applicable mandatory project design feature in the completed CAP Consistency Worksheet. The project also would support Measure T-1 (Smart Growth) because the project would be located approximately 0.6 miles from transit (specifically, Sprinter/Breeze transit services), which is less than the City's objective of locating 25% of new development within 2 miles of shopping/transit/job centers. The North County Transit District (NCTD) provides public transportation within the City and the County of San Diego for Coaster rail service, Sprinter light rail service, and Breeze bus service. Sprinter service operates between Escondido and Oceanside with connections to Interstate 5 and the Coaster rail service operating out of the City of Oceanside. As indicated, the Sprinter rail service and bus transit service are located approximately 0.6 miles from the project site on East Mission Road. Also, the project is an infill site surrounded by existing development located within a transit priority area according to Section 21099 of the California Public Resources Code.

Efficiency Metric Target

As shown in Table 3.7-2, a locally appropriate 2030 project threshold consistent with the SB 32 target is calculated to be 3.2 MT CO₂e per service population. For this analysis, the project would be compliant with the SB 32 target if project emissions are below the locally appropriate 3.2 MT CO₂e per service population efficiency metric, which is substantial progress toward climate stabilizing targets in 2045.

3.7 Greenhouse Gas Emissions

The project was estimated to have a service population of 603³; therefore, the project would result in an efficiency metric of 3.1 MT CO₂e per service population per year (1,839 MT CO₂e/year/603 service population). This would be less than the City's efficiency metric of 3.2 MT CO₂e per service population per year.

Consistency with Statewide Greenhouse Gas Reduction Strategies

The project's consistency with statewide GHG reduction strategies is summarized in detail in Table 3.7-7 through consideration of the project's various construction and operational components and their relationship to specified laws and regulations designed to reduce GHG emissions from such components.

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
<i>Building Components/Facility Operations</i>		
Roofs/Ceilings/Insulation	CALGreen Code (Title 24, Part 11) California Energy Code (Title 24, Part 6)	The project must comply with efficiency standards regarding roofing, ceilings, and insulation. For example: <u>Roofs/Ceilings</u> : New construction must reduce roof heat island effects per CALGreen Code Section 106.11.2, which requires use of roofing materials having a minimum aged solar reflectance, thermal emittance complying with Section A5.106.11.2.2 and A5.106.11.2.3 or a minimum aged Solar Reflectance Index as specified in Tables A5.106.11.2.2, or A5.106.11.2.3. Roofing materials must also meet solar reflectance and thermal emittance standards contained in Title 20 Standards. <u>Roof/Ceiling Insulation</u> : There are also requirements for the installation of roofing and ceiling insulation. (See Title 24, Part 6 Compliance Manual at Section 3.2.2.)
Flooring	CALGreen Code	The project must comply with efficiency standards regarding flooring materials. For example, for 80% of floor area receiving "resilient flooring," the flooring must meet applicable installation and material requirements contained in CALGreen Code Section 5.504.4.6.

³ The project would develop approximately 192 multi-family residential dwelling units, resulting in a gross density of approximately 13.3 dwelling units per acre. Based on the population rate coefficient of 3.14 persons per dwelling unit, as established by the California Department of Finance, the proposed project would potentially add an estimated 603 people to the area (DOF 2018).

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
Window and Doors (Fenestration)	California Energy Code	The project must comply with fenestration efficiency requirements. For example, the choice of windows, glazed doors, and any skylights for the project must conform to energy consumption requirements affecting size, orientation, and types of fenestration products used. (See Title 24, Part 6 Compliance Manual, Section 3.3.)
Building Walls/Insulation	CALGreen Code California Energy Code	<p>The project must comply with efficiency requirements for building walls and insulation.</p> <p><u>Exterior Walls:</u> Must meet requirements in current edition of California Energy Code, and comply with Sections A5.106.7.1 or A5.106.7.2 of CALGreen Code for wall surfaces, as well as Section 5.407.1, which required weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2. Construction must also meet requirements contained in Title 24, Part 6, which vary by material of the exterior walls. (See Title 24, Part 6 Compliance Manual, Part 3.2.3.)</p> <p><u>Demising (Interior) Walls:</u> Mandatory insulation requirements for demising walls (which separate conditioned from non-conditioned space) differ by the type of wall material used. (<i>Id.</i> at 3.2.4.)</p> <p><u>Door Insulation:</u> There are mandatory requirements for air infiltration rates to improve insulation efficiency; they differ according to the type of door. (<i>Id.</i> at 3.2.5.)</p> <p><u>Flooring Insulation:</u> There are mandatory requirements for insulation that depend on the material and location of the flooring. (<i>Id.</i> at 3.2.6.)</p>
Finish Materials	CALGreen Code	The project must comply with pollutant control requirements for finish materials. For example, materials including adhesives, sealants, caulks, paints and coatings, carpet systems, and composite wood products must meet requirements in CALGreen Code to ensure pollutant control. (CALGreen Code Section 5.504.4.)
Wet Appliances (Toilets/Faucets/Urinals, Dishwasher/Clothes Washer, Spa and Pool/Water Heater)	CALGreen Code California Energy Code Appliance Efficiency Regulations (Title 20 Standards)	<p>Wet appliances associated with the project must meet various efficiency requirements. For example:</p> <p><u>Spa and Pool:</u> Use associated with the project is subject to appliance efficiency requirements for service water heating systems and equipment, spa and pool heating systems and equipment. (Title 24, Part 6, Sections 110.3, 110.4, 110.5; Title 20 Standards, Sections 1605.1(g), 1605.3(g); see also California Energy Code.)</p> <p><u>Toilets/Faucets/Urinals:</u> Use associated with the project is subject to new maximum rates for toilets, urinals, and faucets effective January 1, 2016:</p> <ul style="list-style-type: none"> • Showerheads maximum flow rate 2.5 gpm at 80 psi

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
		<ul style="list-style-type: none"> • Wash fountains 2.2 x (rim space in inches/20) gpm at 60 psi • Metering faucets 0.25 gallons/cycle • Lavatory faucets and aerators 1.2 gpm at 60 psi • Kitchen faucets and aerators 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi • Public lavatory faucets 0.5 gpm at 60 psi • Trough-type urinals 16 inches length • Wall mounted urinals 0.125 gallons per flush • Other urinals 0.5 gallons per flush <p>(Title 20 Standards, Sections 1605.1(h),(i) 1065.3(h),(i).) <u>Water Heaters</u>: Use associated with the project is subject to appliance efficiency requirements for water heaters. (Title 20 Standards, Sections 1605.1(f), 1605.3(f).) <u>Dishwasher/Clothes Washer</u>: Use associated with the project is subject to appliance efficiency requirements for dishwashers and clothes washers. (Title 20 Standards, Sections 1605.1(o),(p),(q), 1605.3(o),(p),(q).)</p>
Dry Appliances (Refrigerator/Freezer, Heater/Air Conditioner, Clothes Dryer)	Title 20 Standards CALGreen Code	<p>Dry appliances associated with the project must meet various efficiency requirements. For example: <u>Refrigerator/Freezer</u>: Use associated with the project is subject to appliance efficiency requirements for refrigerators and freezers. (Title 20 Standards, Sections 1605.1(a), 1605.3(a).) <u>Heater/Air Conditioner</u>: Use associated with the project is subject to appliance efficiency requirements for heaters and air conditioners. (Title 20 Standards, Sections 1605.1(b),(c),(d),(e), 1605.3(b),(c),(d),(e) as applicable.) <u>Clothes Dryer</u>: Use associated with the project is subject to appliance efficiency requirements for clothes dryers. (Title 20 Standards, Section 1605.1(q).)</p>
	CALGreen Code	<p>Installations of HVAC, refrigeration and fire suppression equipment must comply with CALGreen Code Sections 5.508.1.1 and 508.1.2, which prohibits CFCs, halons, and certain HCFCs and HFCs.</p>
Lighting	Title 20 Standards	<p>Lighting associated with the project will be subject to energy efficiency requirements contained in Title 20 Standards. <u>General Lighting</u>: Indoor and outdoor lighting associated with the project must comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(j),(k),(n), 1605.3(j),(k),(n).) <u>Emergency lighting and self-contained lighting</u>: the project must also comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(l), 1605.3(l).)</p>

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	GHG Reduction Measures Required for Project
		<u>Traffic Signal Lighting</u> : For any necessary project improvements involving traffic lighting, traffic signal modules and traffic signal lamps will need to comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(m), 1605.3(m).)
	California Energy Code	Lighting associated with the project will also be subject to energy efficiency requirements contained in Title 24, Part 6, which contains energy standards for non-residential indoor lighting and outdoor lighting. (See Title 24 Part 6 Compliance Manual, at Sections 5, 6.) Mandatory lighting controls for indoor lighting include, for example, regulations for automatic shut-off, automatic daytime controls, demand responsive controls, and certificates of installation. (Id. at Section 5.) Regulations for outdoor lighting include, for example, creation of lighting zones, lighting power requirements, a hardscape lighting power allowance, requirements for outdoor incandescent and luminaire lighting, and lighting control functionality. (Id. at Section 6.)
	AB 1109	Lighting associated with the project will be subject to energy efficiency requirements adopted pursuant to 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.
Bicycle and Vehicle Parking	CALGreen Code	The project will be required to provide compliant bicycle parking, fuel-efficient vehicle parking, and electric vehicle charging spaces (CALGreen Code Sections 5.106.4, 5.106.5.1, 5.106.5.3)
	California Energy Code	The project is also subject to parking requirements contained in Title 24, Part 6. For example, parking capacity is to meet but not exceed minimum local zoning requirements, and the project should employ approved strategies to reduce parking capacity (Title 24, Part 6, section 106.6)

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
Landscaping	CALGreen Code	The CALGreen Code requires and has further voluntary provisions for: <ul style="list-style-type: none"> - A water budget for landscape irrigation use; - For new water service, separate meters or submeters must be installed for indoor and outdoor potable water use for landscaped areas of 1,000-5,000 square feet; - Provide water-efficient landscape design that reduces use of potable water beyond initial requirements for plant installation and establishment
	Model Water Efficient Landscaping Ordinance	The model ordinance promotes efficient landscaping in new developments and establishes an outdoor water budget for new and renovated landscaped areas that are 500 square feet or larger. (CCR, Title 23, Division 2, Chapter 2.7.)
	Cap-and-Trade Program	Transportation fuels used in landscape maintenance equipment (e.g., gasoline) would be subject to the Cap-and-Trade Program. (See "Energy Use," below.)
Refrigerants	CARB Management of High GWP Refrigerants for Stationary Sources	Any refrigerants associated with the project will be subject to CARB standards. CARB's Regulation for the Management of High GWP Refrigerants for Stationary Sources 1) reduces emissions of high-GWP refrigerants from leaky stationary, non-residential refrigeration equipment; 2) reduces emissions resulting from the installation and servicing of stationary refrigeration and air conditioning appliances using high-GWP refrigerants; and 3) requires verification GHG emission reductions. (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5.1, Section 95380 et seq.)
Consumer Products	CARB High GWP GHGs in Consumer Products	All consumer products associated with the project will be subject to CARB standards. CARB's consumer products regulations set VOC limits for numerous categories of consumer products, and limits the reactivity of the ingredients used in numerous categories of aerosol coating products (CCR, Title 17, Division 3, Chapter 1, Subchapter 8.5.)
Construction		
Use of Off-Road Diesel Engines, Vehicles, and Equipment	CARB In-Use Off-Road Diesel Vehicle Regulation	Any relevant vehicle or machine use associated with the project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation 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

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
		their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation.
	Cap-and-Trade Program	Transportation fuels (e.g., gasoline) used in equipment operation would be subject to the Cap-and-Trade Program. (See "Energy Use," below.)
Greening New Construction	CALGreen Code	All new construction, including the project, must comply with CALGreen Code, as discussed in more detail throughout this table. Adoption of the mandatory CALGreen Code standards for construction has been essential for improving the overall environmental performance of new buildings; it also sets voluntary targets for builders to exceed the mandatory requirements.
Construction Waste	CALGreen Code	The project will be subject to CALGreen Code requirements for construction waste reduction, disposal, and recycling, such as a requirement to recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.
<i>Solid Waste</i>		
Solid Waste Management	Landfill Methane Control Measure	Waste associated with the project will be disposed per state requirements for landfills, material recovery facilities, and transfer stations. Per the statewide GHG emissions inventory, the largest emissions from waste management sectors come from landfills, and are in the form of CH ₄ . In 2010, CARB adopted a regulation that reduces emissions from methane in landfills, primarily by requiring owners and operators of certain uncontrolled municipal solid waste landfills to install gas collection and control systems, and requires existing and newly installed gas and control systems to operate in an optimal manner. The regulation allows local air districts to voluntarily enter into a memorandum of understanding with CARB to implement and enforce the regulation and to assess fees to cover costs of implementation.
	Mandatory Commercial Recycling (AB 341)	AB 341 will require the project, if it generates four cubic yards or more of commercial solid waste per week, to arrange for recycling services, using one of the following: self-haul; subscribe to a hauler(s); arranging for pickup of recyclable materials; subscribing to a recycling service that may include mixed waste processing that yields

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
		diversion results comparable to source separation. The project will also be subject to local commercial solid waste recycling program required to be implemented by each jurisdiction under AB 341.
	CALGreen Code	The project will be subject to CALGreen Code requirement to provide areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (CALGreen Code Section 5.410.1)
<i>Energy Use</i>		
Electricity/Natural Gas Generation	Cap-and-Trade Program	Electricity and natural gas usage associated with the project will be subject to the Cap-and-Trade Program. The rules came into effect on January 1, 2013, applying to large electric power plants and large industrial plants. In 2015, importers and distributors of fossil fuels were added to the Cap-and-Trade Program in the second phase. Specifically, on January 1, 2015, cap-and-trade compliance obligations were phased in for suppliers of natural gas, reformulated gasoline blendstock for oxygenate blending (RBOB), distillate fuel oils, and liquefied petroleum gas that meet or exceed specified emissions thresholds. The threshold that triggers a cap-and-trade compliance obligation for a fuel supplier is 25,000 metric tons or more of CO ₂ e annually from the GHG emissions that would result from full combustion or oxidation of quantities of fuels (including natural gas, RBOB, distillate fuel oil, liquefied petroleum gas, and blended fuels that contain these fuels) imported and/or delivered to California.
Renewable Energy	California RPS (SB X1-2, SB 350, and SB 100)	Energy providers associated with the project will be required to comply with RPS set by SB X1 2, SB 350, and SB 100. SB X1 2 requires investor-owned utilities, publicly-owned utilities, and electric service providers to increase purchases of renewable energy such that at least 33% of retail sales are procured from renewable energy resources by December 31, 2020. In the interim, each entity was required to procure an average of 20% of renewable energy for the period of January 1, 2011 through December 31, 2013; and will be required to procure an average of 25% by December 31, 2016, and 33% by 2020. SB 350 requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030. SB 100 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

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	GHG Reduction Measures Required for Project
		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 by 2045.
	Million Solar Roofs Program (SB 1)	The project will participate in California's energy market by pre-wiring roofs for future installation of solar, which is affected by implementation of the Million Solar Roofs Program. As part of Governor Schwarzenegger's Million Solar Roofs Program, California has set a goal to install 3,000 megawatts of new, solar capacity through 2016. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time.
	California Solar Initiative- Thermal Program	The project will participate in California's energy market, which is affected by implementation of the California Solar Initiative -Thermal Program. The program offers cash rebates of up to \$4,366 on solar water heating systems for single-family residential customers. Multifamily and Commercial properties qualify for rebates of up to \$800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to \$500,000. Funding for the California Solar Initiative-Thermal program comes from ratepayers of Pacific Gas & Electric, SCE, Southern California Gas Company, and San Diego Gas & Electric. The rebate program is overseen by the CPUC as part of the California Solar Initiative.
	Waste Heat and Carbon Emissions Reduction Act (AB 1613, AB 2791)	The project will participate in California's energy market, which is affected by implementation of the Waste Heat and Carbon Emissions Reduction Act. Originally enacted in 2007 and amended in 2008, this act directed the CEC, CPUC, and CARB to implement a program that would encourage the development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts, to increase combined heat and power use by 30,000 gigawatt-hour. The CPUC publicly owned electric utilities, and CEC duly established policies and procedures for the purchase of electricity from eligible combined heat and power systems. CEC guidelines require combined heat and power systems to be designed to reduce waste energy; have a minimum efficiency of 60%; have NO _x emissions of no more than 0.07 pounds per megawatt-hour; be sized to meet eligible customer generation thermal load; operate

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
		continuously in a manner that meets expected thermal load and optimizes efficient use of waste heat; and be cost effective, technologically feasible, and environmentally beneficial.
<i>Vehicular/Mobile Sources</i>		
General	SB 375 and SANDAG RTP/SCS	The project complies with, and is subject to, the SANDAG adopted RTP/SCS, which CARB approved as meeting its regional GHG targets in 2016.
Fuel	Low Carbon Fuel Standard (LCFS)/ EO S-01-07	Auto trips associated with the project will be subject to LCFS (EO S-01-07), which requires a 20% or greater reduction in the average fuel carbon intensity by 2030 with a 2010 baseline for transportation fuels in California regulated by CARB. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve statewide GHG reduction goals.
	Cap-and-Trade Program	Use of gasoline associated with the project will be subject to the Cap-and-Trade Program. The rules came into effect on January 1, 2013, applying to large electric power plants and large industrial plants. In 2015, importers and distributors of fossil fuels were added to the Cap-and-Trade Program in the second phase. Specifically, on January 1, 2015, cap-and-trade compliance obligations were phased in for suppliers of natural gas, RBOB, distillate fuel oils, and liquefied petroleum gas that meet or exceed specified emissions thresholds. The threshold that triggers a cap-and-trade compliance obligation for a fuel supplier is 25,000 MT or more of CO ₂ e annually from the GHG emissions that would result from full combustion or oxidation of quantities of fuels (including natural gas, RBOB, distillate fuel oil, liquefied petroleum gas, and blended fuels that contain these fuels) imported and/or delivered to California.

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	GHG Reduction Measures Required for Project
Light-Duty Vehicles	AB 1493 (or the Pavley Standard)	<p>Cars that drive to and from the project will be subject to AB 1493, which directed CARB to adopt a regulation requiring the maximum feasible and cost effective reduction of GHG emissions from new passenger vehicles.</p> <p>Pursuant to AB 1493, CARB adopted regulations that establish a declining fleet average standard for CO₂, CH₄, N₂O, and HFCs (air conditioner refrigerants) in new passenger vehicles and light-duty trucks beginning with the 2009 model year and phased-in through the 2016 model year. These standards are divided into those applicable to lighter and those applicable to heavier portions of the passenger vehicle fleet.</p> <p>The regulations will reduce “upstream” smog-forming emissions from refining, marketing, and distribution of fuel.</p>
	Advanced Clean Car and ZEV Programs	<p>Cars that drive to and from the project will be subject to the Advanced Clean Car and ZEV Programs.</p> <p>In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, new automobiles will emit 34% fewer global warming gases and 75% fewer smog-forming emissions.</p> <p>The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018-2025 model years.</p>
	Tire Inflation Regulation	<p>Cars that drive to and from the project will be subject to the CARB Tire Inflation Regulation, which took effect on September 1, 2010, and applies to vehicles with a gross vehicle weight rating of 10,000 pounds or less.</p> <p>Under this regulation, automotive service providers must, inter alia, check and inflate each vehicle’s tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service, and to keep a copy of the service invoice for a minimum of three years, and make the vehicle service invoice available to the CARB, or its authorized representative upon request.</p>

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
	EPA and NHTSA GHG and CAFE standards.	Mobile sources that travel to and from the project would be subject to EPA and NHTSA GHG and CAFE standards for passenger cars, light-duty trucks, and medium-duty passenger vehicles. (75 FR 25324–25728 and 77 FR 62624–63200.)
Water Use		
Water Use Efficiency	Emergency State Water Board Regulations	Water use associated with the project will be subject to emergency regulations. On May 18, 2016, partially in response to EO B-27-16, the State Water Board adopted emergency water use regulations (CCR, title 23, Section 864.5 and amended and re-adopted Sections 863, 864, 865, and 866). The regulation directs the State Water Board, Department of Water Resources, and CPUC to implement rates and pricing structures to incentivize water conservation, and calls upon water suppliers, homeowners' associations, California businesses, landlords and tenants, and wholesale water agencies to take stronger conservation measures.
	EO B-37-16	Water use associated with the project will be subject to Emergency EO B-37-16, issued May 9, 2016, which directs the State Water Resources Control Board to adjust emergency water conservation regulations through the end of January, 2017 to reflect differing water supply conditions across the state. The Water Board must also develop 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 Water Board and Department of Water Resources will develop new, permanent water use targets to which the project will be subject. The Water Board will permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.
	EO B-40-17	EO B-40-17 lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinds EO B-29-15, but expressly states that EO B-37-16 remains in effect and directs the State Water Resources Control Board to continue development of permanent prohibitions on wasteful water use to which the project will be subject.
	SB X7-7	Water provided to the project will be affected by SB X7-7's requirements for water suppliers.

Table 3.7-7
Relevant Greenhouse Gas-Related Laws and Regulations

Project Component	Applicable Laws/Regulations	GHG Reduction Measures Required for Project
		SB X7-7, or the Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. It also requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.
	CALGreen Code	The project is subject to CALGreen Code's water efficiency standards, including a required 20% mandatory reduction in indoor water use. (CALGreen Code, Division 4.3.)
	California Water Code, Division 6, Part 2.10, Sections 10910–10915.	Development and approval of the project requires the development of a project-specific Water Supply Assessment.
	Cap-and-Trade Program	Electricity usage associated with water and wastewater supply, treatment and distribution would be subject to the Cap-and-Trade Program.
	California RPS (SB X1-2, SB 350, SB 100)	Electricity usage associated with water and wastewater supply, treatment and distribution associated with the project will be required to comply with RPS set by SB X1-2, SB 350, and SB 100.

Notes: AB = Assembly Bill; CARB = California Air Resources Board; CEC = California Energy Commission; CFC = chlorofluorocarbon; CH₄ = methane; CO₂ = carbon dioxide; CO₂e = carbon dioxide equivalent; CPUC = California Public Utilities Commission; EO = Executive Order; EPA = Environmental Protection Agency; GHG = greenhouse gas; GWP = global warming potential; HCFC = hydrochlorofluorocarbon; HFC = hydrofluorocarbon; gpm = gallons per minute; MT = metric tons; N₂O = nitrous oxide; NHTSA = National Highway Traffic Safety Administration; PM = particulate matter; RPS = Renewable Portfolio Standard; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy; SB = Senate Bill; SANDAG = San Diego Association of Governments; VOC = volatile organic compound; ZEV = zero emission vehicle

As shown, the project would be consistent with and would not conflict with the applicable GHG-reducing strategies of the state that implicate the project's construction and operational components.

In addition, CARB notes in the First Update that “California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32” (CARB 2014). The project would help support achievement of the near-term 2020 goal (as codified in AB 32), the interim 2030 goal (as codified in SB 32) and the long-term, carbon neutrality 2045 goal (as set forth in EO B-55-18) by being infill development with access to multi-modal transportation options and incorporating design features such as installation of smart meters, installation of programmable thermostats, implementation of a parking management plan, walkability and bicycle access throughout the project site, walking access to nearby sprinter station, and drought-tolerant landscaping.⁴

Consistency with SANDAG’s RTP/SCS

At the regional level, 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 meets CARB’s 2020 and 2035 reduction targets for the region. The RTP/SCS does not regulate land use or supersede the exercise of land use authority by SANDAG’s member jurisdictions, but it is a relevant regional reference document for purposes of evaluating the intersection of land use and transportation patterns and the corresponding GHG emissions. CARB has recognized that the approved RTP/SCS is consistent with SB 375 (CARB 2015).

For purposes of the RTP/SCS consistency evaluation, the proposed project is infill within a transit priority area (per Public Resources Code Section 21099) and as a result, residents would have a lower per capita vehicle miles traveled and associated GHG impacts than similarly sized growth outside of the City center. The project also would increase access to transit, as it is located approximately 0.6 miles from the Sprinter station and bus station.⁵ The project would provide connectivity by extending the sidewalk to neighboring communities and the Sprinter station. The project’s proximity to State Route 78 and Interstate 15 further allow for easy regional connectivity to employment centers, shopping areas, and recreation opportunities. The project’s internal road circulation and access plan creates a safe and free flow of vehicular, pedestrian, and bicycle traffic by incorporating traffic calming measures to promote safe driveways shared by all. The project also encompasses the intent of SANDAG’s Transit Oriented Development (TOD) Strategy. The project’s

⁴ GHG emission reductions from the listed design features were not quantified.

⁵ The City utilizes the NCTD for Coaster rail service, Sprinter light rail service, and Breeze bus service for connections throughout the County of San Diego. Sprinter service operates between Escondido and Oceanside with connections to Interstate 5 and the Coaster rail service operating out of the City of Oceanside. The NCTD operates the Nordahl Road Sprinter and Breeze transit station within a short walk from the project area. Connections to Orange County can be made via the Metrolink in the City of Oceanside. Similarly, connections to Riverside Transit Authority buses can be made via the transit station in Oceanside and Escondido. Both the Metrolink connection in Oceanside and the Riverside Transit Authority Bus connection in Oceanside and Escondido are accessible through Sprinter light rail service. These public transit options will offer residents of the project area quick access to a variety of alternative modes of transportation.

density, product type, and most importantly the project's location, are consistent with several strategies outlined in SANDAG's Regional TOD Strategy such as Strategy #2; which facilitates access to employment centers through transit stations, Strategy #3; which promotes walking and biking to transit stations, connecting people to jobs in transit oriented districts, and Strategy #9; under which the project would pay into community facilities and infrastructure programs. The features mentioned above help facilitate alternative transit usage and reduce the overall vehicle trips, thereby reducing the project's regional GHG emissions.

3.7.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects which, when considered together, are considerable or which 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 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 California Natural Resources Agency 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 2018b). 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 result in less than significant GHG emissions based on numerous, independent grounds summarized below.

First, the project would result in the emissions of GHGs as a result of both construction and operation activities. However, the project would be less GHG intensive than the emissions assumptions incorporated into the City's CAP, despite the proposed land use designation change (see Table 3.7-6), and is consistent with appropriate mandatory project design feature in the completed CAP Consistency Worksheet. Therefore, the project would not conflict with implementation of the City's CAP or attainment of the GHG reductions for calendar years 2020 and 2030 contemplated therein.

Second, the project also would result in 3.1 MT CO₂e per service population per year, which would be less than the City's efficiency metric of 3.2 MT CO₂e per service population per year calculated for calendar year 2030. Therefore, the project would make substantial progress towards the climate stabilizing reduction targets for 2030 and 2045 established by SB 32 and EO B-55-18.

Third, the project would be consistent with and would not conflict with the applicable GHG-reducing strategies of the state that implicate the project's construction and operational components (see Table 3.7-7).

Fourth, the project is located on an infill site in a designated transit priority area that is surrounded by existing development and is linked to the community through a multi-modal transportation system to include roads, alternative transportation, pedestrian, and bicycle mobility options. Meeting the demand for housing and resident-serving uses on an infill site is consistent with multiple state policies that are designed to encourage and incentivize infill development, particularly where served by multi-modal transportation options. Thus, the project would be consistent with SANDAG's Regional Plan.

In summary, impacts with regard to GHG emissions would be less than significant, and no mitigation is required.

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing hazards and hazardous materials within the vicinity of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. The following documents were used in preparation of this section and are included in their entirety as Appendices G1, G2, G3, and G4 respectively:

- Phase 1 Environmental Site Assessment and Limited Soil Investigation (Phase 1 ESA), prepared by EEI Engineering Solutions, on July 14, 2017¹
- Preliminary Fire/Medical Response Analysis, prepared by Dudek, on July 18, 2018
- Conceptual Wildland Fire Evacuation Plan (Evacuation Plan) for the Sunrise Community, San Marcos, prepared by Dudek, in August 2018
- Community Wildfire Protection Plan prepared by the San Marcos Fire Department in December 2007

Table 3.8-1 summarizes the hazards/hazardous materials and cumulative-level impact analysis, by threshold, for the proposed 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.	No Impact	No Impact	No Impact
#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	Less than Significant	Less than Significant	Less than Significant

¹ This study reflects a different project boundary, which is larger than the current proposed project site. However, the analysis contained therein and reflected in this section is not altered by the differences in these boundaries and no revisions are needed.

Table 3.8-1.
Hazards and Hazardous Materials Summary of Impacts

Threshold of Significance	Project-Level Impact	Cumulative-Level Impact	Significance Determination
project result in a safety hazard or excessive noise for people residing or working in the project area.			
#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 and vicinity related to hazards and hazardous materials. The Phase I ESA was undertaken to assess the likelihood of any recognized hazardous substances or petroleum products that might be present on-site as a result of current or historical land uses or adjacent uses. The proposed project's Phase 1 ESA included a review of the historical records of the project site, a site reconnaissance of the project site, reconnaissance of adjoining properties, a Vapor Encroachment Screen (VES) for the project site, and a limited soil investigation, including soil matrix sampling.

Historical Land Uses

Aerial photographs, topographic maps, and previous reports of the project site were reviewed for evidence of past land uses and development that could have the potential to generate hazardous materials or waste disposal. EEI Engineering Solutions found that the western portion of the southern parcel appeared to have been developed with an orchard from approximately 1953 to 1995. A small shed and barn also occupied the central and eastern portions of the project site. The entire project site has remained vacant since the removal of the barn structure in 2008.

Regulatory Database Review

An environmental regulatory database review of local, state, and federal regulatory databases was conducted for the project site and adjacent properties. The databases track the presence of underground storage tanks (USTs), hazardous waste generation, and hazardous waste generators, or other environmental concerns, such as spills, leaks, or aboveground tanks. The complete database search is included as part of Appendix G1 of this EIR. The project site was not listed on any of the regulatory databases reviewed.

Site Reconnaissance

As presented in the Phase 1 ESA prepared for the proposed project, in June 2017, EEI Engineering Solutions staff conducted a site reconnaissance to physically observe the project site and adjacent properties, for conditions indicating a potential environmental concern, including any evidence of contamination, distressed vegetation, petroleum-hydrocarbon staining, waste drums, illegal dumping, or improper waste storage and/or handling. At the time of the site reconnaissance, miscellaneous trash and debris was noted throughout the site in small quantities with no specific area of accumulation. One small pile of concrete and asphalt rubble, measuring approximately three feet in height and approximately ten feet in length, was observed in the northern parcel of the project site, just south of Barham Drive, where the road is proposed. No evidence of surficial staining or imported fill was found in the pile. Additionally, a water supply well was found in the same area, just north of Barham Drive, as well as an approximately 2-gallon plastic container. The container consists of motor oil, likely from periodic maintenance of the pump associated with the water supply well. Although the container appeared weathered, no indication of leakage was found. Further, no evidence of surficial staining, noxious odors, or misuse of the system was observed at the project site by EEI Engineering Solutions staff. None of the features present on site represent a hazardous environmental concern on the project site.

Wildland Fire

The project site is not designated as a high fire severity zone (Ready San Diego 2018). The San Marcos Fire Department (SMFD) prepared a Community Wildfire Protection Plan (CWPP) and Hazard Risk Assessment (HRA) for the San Marcos community and unincorporated areas in the San Marcos Fire Protection District to reduce the risk of wildland fires (included as Appendix G4). According to the Evacuation Plan (Appendix G3) prepared by Dudek for the proposed project, wildfire exposure along any of the routes to the east/north, or south described above is low.

A discussion of fire protection services for the proposed project is discussed in Section 3.13, Public Services, of this EIR.

3.8.2 Regulatory Setting

This section details the federal, state, and local regulations governing hazards and hazardous materials.

Federal

Chemical Accident Prevention Provision

The provisions listed under Title 40 Part 68 of the Code of Federal Regulations (CFR) set forth the 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 (FAR). The notification of proposed development enables the FAA to provide a basis for:

- Evaluating the effect of the construction or alteration on operational procedures and proposed operational procedures;
- Determinations of the possible hazardous effect of the proposed construction or alteration of air navigation;
- 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;
- Determining other appropriate measures to be applied for continued safety of air navigation; and
- 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 (FEMA) 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 (USDOT) 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 (CHP) and the California Department of Transportation (Caltrans). 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 (IBC) 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 from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set 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 amended the Solid Waste Disposal Act of 1965 (SWDA), as amended by the Resource Conservation and Recovery Act of 1976 (RCRA). In general, both the scope and requirements of the SWDA, 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 (DTSC), the State Water Resources Control Board (SWRCB), 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 CCR Title 24. It is created by the California Building Standards Commission and is based on the IFC created by the International Code Council, described above. 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 CBC 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 that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years. The CFC is adopted by reference as Chapter 17.64–California Fire Code for the San Marcos Fire Department.

California Health and Safety Code, Hazardous Materials Release Response Plans and Inventory

Two programs found in the California Health and Safety Code (H&SC) Chapter 6.95 are directly applicable to the CEQA issue of risk due to hazardous substance release. In San Diego County, these two programs are referred to as the Hazardous Materials Business Plan (HMBP) program and the California Accidental Release Program (CalARP), which is the state adaptation of CFR Part 68, described above. The Department of Environmental Health (DEH) is responsible for the implementation of the HMBP program and CalARP in San Diego County. The HMBP and CalARP programs provide threshold quantities for regulated hazardous substances. When the indicated quantities are exceeded, an HMBP or Risk Management Plan (RMP) is required pursuant to the regulation. Congress requires USEPA Region 9 to make RMP information available to the public through the USEPA'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 Environmental Protection Agency (Cal/EPA), CHP, the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB).

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, CHP, RWQCBs, 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 Cal/EPA to develop an updated Cortese List annually, at minimum. DTSC 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 (CCR) 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 DTSC.

Unified Program

Cal/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;

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- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure plans;
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs; and
- California Uniform Fire Code: Hazardous material management plans and hazardous material inventory statements.

The County of San Diego 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 (SRAs). Title 14 regulates that the future design and construction of structures, subdivisions, and developments in an SRA 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 airport; 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 makes recommendation regarding the land use, building heights, and other issues related to air navigation safety and the promotion of air commerce. The San Diego County Regional Airport Authority is the ALUC for the San Diego region.

The closest airport to the project site is the McClellan-Palomar Airport which operates under its own ALUCP. The project site is located within Review Area 2 of the McClellan-Palomar Airport Influence Area (AIA).

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 are included in this plan.

San Marcos Fire Department Hazard Risk Analysis and Wildland Urban Interface Community Wildfire Protection Plan

The CWPP, adopted in December 2007 (included as Appendix G4), was developed by the San Marcos Fire Department (SMFD) with guidance from the County of San Diego, California Department of Forestry and Fire Protection and the United States Forest Service. The CWPP supplements San Diego County, Department of Planning and Land use documents. Supplemental to the CWPP, the SMFD published the Hazard Risk Analysis (HRA) 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 HRA quantifies, clarifies, and manages the wildland urban interface (WUI) responsibility and meets the requirements of the federal Healthy Forests Restoration Act (HFRA) 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. Concurrently, this ordinance 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 several goals and policies pertaining to hazards and hazardous materials. The following goals and policies apply to the proposed 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.

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- **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 overflight notification area consistent with the ALUCP.

The project's consistency with applicable General Plan goals and policies is discussed in Section 3.10, Land Use and Planning. The Safety Element also identifies goals and policies related to seismic, flood, and fire hazards. As detailed in Section 3.10.4, the project is consistent with the overall goals 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 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

The following analysis discusses impacts associated with the thresholds of significance identified in Section 3.8.3, Thresholds of Significance, above.

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 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.

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 proposed 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 during construction could occur with the transport, use, or disposal of these materials. However, existing federal and state standards are in place for the handling, storage, and transport of these materials and would be implemented during construction of the proposed project. These regulations include the Federal Chemical Accident Prevention Provisions (Part 68 of the Code of Federal Regulations); California Highway Patrol and California Department of Transportation container and licensing requirements for transportation of hazardous waste on public roads; the International Fire Code; the Resource Conservation and Recovery Act of 1976 as amended by the Hazardous and Solid

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Waste Amendments of 1984; California's Hazardous Waste Control Law; the California Fire Code; California Health and Safety Code Hazardous Materials Release Response Plans and Inventory; the California Integrated Waste Management Act; regulations developed by California Occupations Safety and Health Administration; and the state Hazardous Waste Control Act.

Further, as described in the Phase 1 ESA, low-level concentrations of lead and dichlorodiphenyldichloroethylene (DDE) were detected in select soil samples during the Limited Soil Investigation prepared, and a partially filled plastic container of used motor oil was identified on-site, adjacent to a water supply well. While low levels of lead and DDE were detected onsite, the levels were well below USEPA screening levels and therefore do not indicate the presence or likely presence of hazardous substances onsite that may create a significant hazard to the public. Extremely low levels of DDE (32 micrograms per kilogram (ug/kg)) was detected in just one of the 10 soil samples collected, which levels are well below the residential screening level of 1,600 ug/kg. Low levels of lead (ranging from 12-21 mg/kg) were detected in select samples, which is well below screening levels of 80 mg/kg. Further, one concrete and asphalt rubble pile, trash debris piles, and a groundwater supply well, were found on-site. Such conditions are considered a de minimus condition which do not indicate the presence or likely presence of hazardous substances that may create a significant hazard to the public. Refer to Appendix G1 for additional details.

Although these findings do not represent a risk of harm to public health or the environment, the Phase 1 ESA recommends that any trash or debris, undocumented underground storage tanks (USTs) or other waste potentially encountered on-site be evaluated by an experienced environmental consultant prior to removal. Such evaluation would be completed as required by applicable health and safety requirements for property handling, transport, and disposal of potentially hazardous trash, debris, or USTs. Regarding the groundwater well, if not planned for future use, the Phase 1 ESA recommends that the well be abandoned according to County and State guidelines, prior to construction of the proposed project. Lastly, the Phase 1 ESA indicates that based on historical records, structures have been located on the central and southern portions of the site since approximately 1964. Although not observed during the site visit, there is potential for sewage disposal systems to be located on the project site. Although not a typical environmental concern, on-site sewage systems, if encountered during site improvements, should be properly abandoned following State and County Health Department guidelines. The proposed project would ensure that the recommendations of the Phase 1 ESA, in regard to removal of potentially hazardous materials, would be implemented, as directed, through compliance with applicable regulations and conditions of project approval.

During operations, the only hazardous materials anticipated for transport, use, or disposal associated with the proposed residential project will be routinely used household products such as cleaners, paint, solvents, motor oil/automotive products, batteries, and garden maintenance products. The use, handling, and disposal of these products is addressed by household hazardous waste programs that are part of the Integrated Waste Management Plan (IWMP) of the County of San Diego. The Household

3.8 Hazards and Hazardous Materials

Hazardous Waste Element of the IWMP specifies the means by which hazardous wastes generated by households shall be collected, recycled, treated, and disposed of safely (County of San Diego 2003).

Through compliance with all standards required through federal, state, county, and municipal regulations and the recommendations of the Phase 1 ESA as a condition of project approval, no significant impacts to the public or the environment through routine transport, use, or disposal of hazardous materials would occur during project construction or operation of the proposed project. Therefore, impacts 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 proposed 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. Further, as discussed above, low-level concentrations of lead and DDE were detected in select soil samples during the Limited Soil Investigation prepared, and a partially filled plastic container of used motor oil was identified on-site, adjacent to a water supply well. Further, one concrete and asphalt rubble pile, trash debris piles, and a groundwater supply well, were found on-site. Although these findings do not represent a risk of harm to public health or the environment, the proposed project would be required to comply with the recommendations of the Phase 1 ESA through compliance with applicable regulations. As such, although the use, transport, and disposal of hazardous materials during construction could result in accidental spill or upset, the proposed project would be required to comply with existing environmental regulations that would ensure that the public and environment are protected.

Future uses proposed within the project area are limited to single family residences and open space uses, which are not typically characteristic of generating, releasing, or using large amounts of hazardous materials. During operations of the proposed project, the only hazardous materials anticipated for transport, use, or disposal are routinely used household products such as cleaners, paint, solvents, motor oil/automotive products, batteries and garden maintenance products. The use, handling, and disposal of these products are addressed by household hazardous waste programs that are part of the IWMP of the County of San Diego and is not expected to result in hazardous upsets or accidents.

Thus, with compliance with existing regulations and the recommendations of the Phase 1 ESA, the project is not expected to result in potential upset and accident conditions involving release of hazardous materials in the environment; thus, impacts would be less than significant.

3.8 Hazards and Hazardous Materials

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?

As discussed in the Initial Study prepared for the proposed project (Appendix A), the proposed project is not located within one-quarter mile of an existing or proposal school. No impact would occur.

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?

As part of the Phase 1 ESA prepared for the proposed project, a database search report was obtained from Environmental Data Resources, Inc., which documents various federal, state, and local regulatory database searches regarding properties with known or suspected releases of hazardous materials, chemical handlers, and/or polluters. The findings of the Phase I ESA concluded that the proposed project site is not located on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5.

Results of the database search conducted for the proposed project identified various listings within one-eighth of a mile of the site; refer to Appendix D of Appendix G1 for the complete results of the database records search. Of these, three listings related to generator hazardous waste sites were found within approximately 0.11 miles of the project site. However, generator permits are not generally a rationale for environmental concern, unless a release has occurred on-site. As such, because none of these listings were listed with a release on the leaking underground storage tank (LUST) database, none are considered an environmental concern. Further, four listings were identified within a one-eighth mile radius of the project site, as having a release of potentially hazardous substances to the soils and/or groundwater. Based on their locations and hydrologically cross-gradient from the project sites, and the “closed case” status assigned to all these listings, they are not considered to be an environmental concern to the project site. One listing of spills, leaks, investigations, and cleanups (SLIC) sites and LUST sites, was reported within a one-eighth mile radius of the project site. This case was reported closed in 1986 and is not considered to be an environmental concern to the site. Further, four listings found in the Local Lists of Registered Storage Tanks (SWEEPS) are located within a one-eighth mile radius of the project site, none of which are considered an environmental concern to the project site. Lastly, two listings of records of emergency release reports (RCRA) are located within one-eighth of a mile radius of the project site; these listings do not represent an environmental concern. As such, no adjacent or nearby properties were identified as having releases or concerns regarding releases of hazardous materials.

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?

As discussed in the Initial Study prepared for the proposed project (Appendix A), the public airport closest to the project site is the McClellan-Palomar Airport, located approximately 8 miles west. According to the McClellan-Palomar ALUCP, the project site partially lies within Review Area 2 of the airport influence area (AIA) (San Diego County Regional Airport Authority 2011). Limits on the heights of structures are the only restrictions on land uses within Review Area 2. The project site is not located in an area of high terrain or in an area of Terrain Penetration to Airspace Surfaces. Further, none of the proposed buildings would exceed 40 feet in height. According to the Airport Land Use Compatibility Plan (ALUCP) for the McClellan-Palomar Airport, the project site is not located within the existing or future 60 dB CNEL noise contour of the airport (San Diego County Regional Airport Authority 2011). Nevertheless, all residential development within Review Area 2 is required to record overflight notification documents as outlined in the McClellan-Palomar ALUCP and per Chapter 20.265 of the City's Municipal Code, notifying residents of potential annoyances commonly associated with proximity to airports, such as noise, vibration, and overflights. This would be required as a condition of project approval. As such, with recording of overflight notification, impacts 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 (EOP) 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). An Evacuation Plan was prepared for the proposed project, in accordance with the City's EOP, and includes an emergency evacuation plan (Appendix G3). The plan would be provided to each homeowner/homeowner association (HOA) member and be accessible on the HOA website.

As described in the Evacuation Plan, emergency evacuation of the project site would be primarily through a looped internal neighborhood roadway, which connects with the primary and secondary ingress/egress roads that intersect off-site primary and major evacuation routes. Based on the existing road network, the community can evacuate to the north, east, south and west within a short distance, depending on the nature of the emergency. More specifically, there are two primary ingress/egress routes for the proposed project's residents, which offer additional routes within a short vicinity of the community, from Meyers Avenue and from Barham Drive. It is anticipated that roughly half of the community traffic would exit the project on Meyers Lane to the east or north, while the other half would be anticipated to use the access to Barham Drive. These are the direct routes out of the community and onto the public surface streets and other down-stream roadways. In a typical evacuation that allows several hours or more time (as experienced for most areas during the 2014 Cocos fire), all traffic may be directed to the north, west, east,

3.8 Hazards and Hazardous Materials

or southeast into Escondido and surrounding cities. If less time is available, or one or more potential routes are considered unsafe, fire and law enforcement officials may direct all traffic in one direction and may consider some neighborhoods for temporarily sheltering in their homes.

Thus, with implementation of the evacuation procedures outlined in the Evacuation Plan, the proposed 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. Impacts 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 designated as a high fire severity zone (Ready San Diego 2018). As discussed above, an Evacuation Plan was prepared for the proposed project in case of a wildland fire. Lastly, as discussed in Section 2.2.2.2, the project would be constructed in accordance 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, § 503.1 through 503.4 of the California Fire Code); an adequate number of emergency rated entrances to the community (Appendix D, §D106 of the California Fire Code); and entryway gate access for first responders (Chapter 5 of the California Fire Code, §503.6). As such, because the project would not be located in a high fire severity zone, and because it would be designed in accordance with fire codes, the project would not expose people or structures to risk of loss, injury, or death involving wildfires, either directly or indirectly. Impacts would be less than significant.

3.8.5 Cumulative Impact Analysis

A “cumulative impact” refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project’s cumulative impact with respect to hazards, the cumulative analysis is based upon a list approach to determine the proposed project’s contributing effect on potential cumulative impacts related to hazards. All of the cumulative projects identified in Table 2-3 are considered in this cumulative analysis.

Hazardous materials impacts are generally site specific and thus handled on a site-by-site basis. All projects identified in Table 2-3 would require the identification of existing hazardous materials on site, and would be required to comply with existing regulations related to use, transport, and disposal of hazardous materials. Similarly, all related projects would be required to analyze and properly mitigate any impacts to the existing evacuation plan, if impacts are identified.

3.8 Hazards and Hazardous Materials

With regard to wildfire hazards, all of the projects proposed within the urban/wildland interface are 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. Currently that is the 2017 Consolidated Fire Code, 2016 California Building Code, San Diego County requirements for Enhanced Building Construction and California State Fire Marshal requirements for fire resistive construction. 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. As such, through compliance with existing regulations, cumulative impacts 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, above, the project site is currently vacant and is not listed on any hazardous materials sites. Furthermore, construction and operation of the proposed project is not expected to result in the release of any significant hazardous materials or the routine transport, use, or disposal of such materials. Further, an Evacuation Plan was prepared to ensure the proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. Lastly, the project site is not designated as a high fire severity zone, and the project would be constructed in accordance with all applicable fire codes. As such, project-level and cumulative-level impacts due to hazards and hazardous materials would be less than significant.

3.8 Hazards and Hazardous Materials

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3.9 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology and water quality of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project.

The analysis in this section relies on the following reports, prepared for the proposed project, included in their entirety as Appendix H1 and Appendix H2, respectively:

- Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) prepared by Lundstorm Engineering & Surveying, Inc., in April 2017.
- Drainage Study, prepared by Lundstorm Engineering and Surveying, Inc., in April 2018.

Table 3.9-1 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
#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	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
water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			
#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.	Less than Significant	Less than Significant	Less than Significant
#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.

Site Hydrology

The project site is characterized by undeveloped terrain and has no existing impervious areas. The project site is currently undeveloped. The ground surface at the site generally descends from the southwest to the northeast and ranges in elevation in approximately 700 to 815 feet (Appendix F1). Under existing conditions, runoff generated on-site flows to the southeast corner of the site and to the northeast corner from two drainage basins. An existing concrete ditch is located at the southeast corner of the site and collects and conveys site runoff to an existing storm drain inlet in Corporate Drive. Site runoff that is conveyed to the northeast surface flows across an existing undeveloped commercial lot onto Meyers Avenue. Runoff from the project site flows 500 feet north along Meyers Avenue to existing public curb inlets located at Meyers Avenue and Barham Drive.

Water Quality

The proposed project is located within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB). The San Diego Region is divided into eleven 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)). 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).

Groundwater

According to the Geotechnical Investigation (Appendix F1), static groundwater was not encountered on-site in any exploratory borings to a depth of 21.5 feet below ground surface when the field exploration was performed. However, minor seepage was noted in boring B-4 at a depth of approximately 11.5 feet below ground surface. It should be noted that variations in groundwater may result from fluctuations in the ground surface topography, subsurface stratification, rainfall, irrigation, and other factors that may not have been evident at the time of our subsurface exploration.

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 one percent-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 U.S. 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 total maximum daily load (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 (NPDES) 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 U.S. 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 stormwater in municipal stormwater 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 one 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 proposed 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 Regional Water Quality Control Board (RWQCB) 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 (CDFW), 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 Stormwater Pollution Prevention Plan (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 stormwater 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) which discharge storm water runoff and non-storm water 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 proposed 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 (HMP) (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 (SUSMP). The BMP Design Manual was used to recommend BMPs and low impact development (LID) features for the proposed project. LID is an approach to land development that uses multiple small-scale natural detention and filtration features to manage stormwater 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 stormwater as a resource rather than a waste product.

Local

Carlsbad Watershed Management Area Water Quality Improvement Plan

On May 8, 2013, the San Diego Regional Water Quality Control Board (RWQCB) adopted Order R9-2013- 0001, a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems Permit (MS4 Permit or Permit), regulating discharges from Phase I municipal separate storm sewer systems (MS4s) in the San Diego Region (SWRCB 2013). Provision B of the Permit requires Responsible Agencies (RA)s, in each of the region's Watershed Management Areas (WMA)s to develop Water Quality Improvement Plans (WQIP)s that identify water quality conditions and strategies to improve water quality within the watershed. Through the WQIP approach, Highest Priority Water Quality Conditions (HPWQC) within the WMA are identified, and strategies are implemented through the RAs' Jurisdictional Runoff Management Programs (JRMP) 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.

San Marcos Storm Water Standards

The City has adopted the use of the 2016 Model BMP Design Manual for the San Diego Region as the City's Storm Water Standards Manual, and the proposed project must comply with the standards and regulations contained therein.

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 2012):

- **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):

- **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 2012):

- **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 proposed 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 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 stormwater pollution prevention requirements. These stormwater 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 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

The following analysis discusses the potential for the proposed project to result in impacts to hydrology and water quality.

3.9 Hydrology and Water Quality

The proposed project incorporates biofiltration features to provide combined pollutant control and hydromodification. Two biofiltration basins are proposed as part of the project, at the northeast and southeast corners of the project site. The northeast biofiltration basin would be approximately 7,606 square feet, while the southeast biofiltration basin would be approximately 5,000 square feet. Stormwater flows would be conveyed to filtration systems through storm drains, where water would be treated prior to being discharged. These biofiltration basins are shown in Figure 2-3, in Chapter 2, Project Description of this EIR.

The biofiltration features 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 stormwater management and discharge control maintenance agreement for the installation and maintenance of permanent BMPs prior to issuance of permits. The biofiltration features will be maintained in perpetuity by the proposed project's Homeowner's Association (HOA). Until the formation of the HOA, the project developer or similar entity shall be responsible for the maintenance. A maintenance agreement shall be recorded with the City, clarifying maintenance roles and responsibilities. These comprehensive inspection and maintenance requirements will be included as conditions of approval for the proposed project.

In addition to the biofiltration features, the proposed project would also incorporate source control and site design BMPs as identified in the preliminary SWQMP for the proposed project (Appendix H1). Source control BMPs include: 1) preventing illicit discharges into the MS4, 2) stenciling the future on-site public road storm drain inlets, and 3) protecting trash storage areas from rainfall, run-on, runoff, and wind dispersal. Site design BMPs include: 1) maintaining natural drainage pathways and hydrologic features, 2) conserving natural areas, soils, and vegetation, 3) minimizing impervious areas, 4) minimizing soil compaction, 5) dispersion of impervious areas, 6) runoff collection, and 7) landscaping with native or drought tolerant species.

Threshold #1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

As identified in the Initial Study prepared for the proposed project (Appendix A), construction activities associated with the proposed project could result in wind and water erosion of the disturbed area leading to sediment discharges. Additionally, fuels, oils, lubricants, and other hazardous substances used during construction could be released and impact water quality. However, the proposed project is required to comply with the NPDES State Water Resources Control Board Construction General Permit Order No. 2009-0009-DWQ for stormwater discharges and general construction activities, and incorporate standard 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 SWPPP would be prepared that specifies BMPs that would be implemented during construction to minimize impacts to

water quality. Lastly, the 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 SWQMP. The implementation of biofiltration, source control, and site design BMPs would effectively treat stormwater 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 identified in the Initial Study prepared for the proposed project (Appendix A), the project does not propose the use of groundwater resources. As described in Thresholds #3 and #4, below, the project involves treatment of storm water runoff through the use of biofiltration basins. All storm water will be adequately treated by the biofiltration ponds prior to being discharged to natural/undisturbed areas that could allow the runoff to infiltrate into the ground and eventually reach groundwater. As the proposed project includes the comprehensive use of biofiltration and BMPs that would effectively treat stormwater runoff, the proposed project would not 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, the proposed project would receive most of its water from San Diego County Water Authority (SDCWA), who in turn, receives its water from the Metropolitan Water District of Southern California (MWD). 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 2016). As such, because the proposed project would not interfere with infiltration and groundwater recharge, 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?

The project site comprises five drainage areas. These drainage areas confluence within the project site and ultimately convey into public curb inlets located at Meyers Avenue and Barham Drive. Under existing conditions, the 14-acre site currently has no existing impervious areas.

Construction

During construction of the proposed project, grading would occur to prepare for the proposed development. As discussed under Threshold #1, in compliance with the Construction General Permit, a stormwater pollution prevention plan would be prepared that specifies BMPs that would be implemented during construction to minimize impacts to water quality. Further, the SWQMP prepared for the project also outlines BMPs required for project construction. These BMPs ensure good on-site management, non-stormwater management, erosion control, sediment control, run-on and run-off control, inspection/maintenance repair, rain event action plan, and monitoring/reporting requirements and would reduce the potential for erosion or siltation during construction of the proposed project. These BMPs have been designed in a manner which is consistent with the requirements of the BMP Design Manual which requires that no pollutants are discharged into the municipal separate storm sewer system (MS4). Per the BMP Design Manual, all development projects, or phases of development projects, are required to implement temporary erosion, sediment, good housekeeping and pollution prevention BMPs to mitigate storm water pollutants during the construction phase (County of San Diego 2019). Further, as such, with implementation of construction BMPs, short term, construction-related impacts would be less than significant.

Operations

As discussed above, in order to comply with the Construction General Permit, an SWPPP would be required for the proposed project. The SWPPP would specify BMPs, to be implemented to minimize water quality impacts. Further, according to the SQWMP, the proposed project is a priority development project and is required to meet hydromodification control measures. However, according to the preliminary SQWMP, the site is not mapped to contain any critical coarse sediment (CSS) yield areas, which are known to contain active or potential sources of sediments. With development of the proposed project, the site would increase the impervious area footprint of the site by 10 acres, which consists of a 70% increase. If not carefully planned for, increased runoff from impervious surface can cause alterations to drainage courses, increases in erosion and siltation, and increases in flooding due to increased runoff. However, as indicated in the Drainage Study, the proposed project would include storm drains, such as biofiltration basins, to be located on the northeast and southeast portion of the site (see Figure 2-3). These components would properly handle runoff to meet regulatory requirements and to ensure that post-development run-off quantifies are rates are similar to or less than pre-development conditions (Appendix H2). As such, with implementation of these BMPs, the project would not have any negative impacts to storm drain systems and would not significantly alter drainage patterns on-site that would result in erosion or siltation on- or off-site. Impacts 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?

As discussed under Threshold 1, above, the proposed project would increase the area of impervious surface on the project site, which could increase runoff flow rates or volumes. However, the proposed project would include implementation of BMPs during construction and proposed storm drain and biofiltration basins during operation (see Threshold #3). These proposed facilities would be designed to collect and convey runoff from 100-year storm events as well as and carefully handle runoff and meet regulatory requirements. This would ensure that the runoff quantities generated by the proposed project do not significantly alter the existing drainage pattern of the site resulting in flooding. Lastly, the proposed project would not result in an alteration of the course of a stream or river. 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?

As described under Threshold #3, above, with implementation of the proposed biofiltration basins, the proposed 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 proposed project would not provide substantial additional sources of polluted runoff. Thus, off-site storm drains will not be adversely affected by the proposed project. As such, with implementation of the proposed BMPs as conditions of project approval, the proposed project would not have any negative hydraulic impacts to the existing storm drain system and would not provide sources of polluted runoff. Impacts 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?

As discussed under Threshold 1, above, the proposed project would increase the area of impervious surface on the project site, which could increase runoff flow rates or volumes. However, the proposed project would include implementation of BMPs during construction and proposed storm drain and biofiltration basins during operation (see Threshold #3). These proposed facilities would be designed to collect and convey runoff from 100-year storm events as well as and carefully handle runoff and meet regulatory requirements. This would ensure that the runoff quantities generated by the proposed project do not significantly impede or redirect flood flows. Impacts 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?

As discussed in the Initial Study prepared for the proposed project (Appendix A), the project site is approximately 11 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 (FEMA 2012). Thus, the project 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. Therefore, impacts would be less than significant.

Threshold #8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

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 purpose of the Carlsbad WQIP is to guide the RAs' JRMPs towards achieving improved water quality in MS4 discharges (or storm water discharges) and receiving water bodies. Responsible agencies' JRMPs contain the strategies, standards and protocols by which each RA will implement their individual program in response to the priorities and goals established in the WQIP (Carlsbad Watershed Management Area Responsible Agencies 2016).

The proposed 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 discussed in Section 3.3.1.4, no potential wetland or non-wetland water features are present within the biological study area, which includes the 14.4-acre project site and areas of off-site improvements. As such, the proposed 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. Impacts would be less than significant.

3.9.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project's

cumulative impact with respect to hydrology/water quality, the cumulative analysis is based upon a list approach to determine the proposed project's contributing effect on potential cumulative impacts on hydrology/water quality. All of the cumulative projects identified in Table 2-3 are considered in this cumulative analysis.

Hydrology

Development of the proposed project and cumulative projects would result in an increase of impervious surfaces in the area. More specifically, other large development projects nearby, such as the Valiano Development Project and the Harmony Grove Village South Project would result in conversion of large pervious areas to impervious. This would potentially result in increased surface runoff, alteration of the regional drainage pattern, and flooding. However, like the proposed project, each individual project applicant would be required to hydrologically engineer the respective project sites to ensure that post-development surface runoff flows can be accommodated by the regional drainage system. For instance, although the Valiano Development Project would result in approximately 58.8 acres of new impervious surfaces on-site, and approximately 1.6 acres of impervious areas off-site, this project would implement storm water drainage facilities that would allow the proposed project to minim existing conditions to the extent feasible and not result in impacts to hydrology (County of San Diego 2018a). Similarly, the Harmony Grove Village South Project would implement various storm drain facilities to retain the overall existing drainage of the site (County of San Diego 2018b).

As such, with implementation of storm drain facilities for each related project, if applicable, the proposed project would not result in a cumulative impact to hydrology. Therefore, the proposed project's contribution to a cumulative impact from a hydrology perspective is less than significant.

Water Quality

Development of the proposed project, in conjunction with cumulative projects that drain to the San Marcos Hydrologic Area, has 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 proposed 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. For instance, the Valiano Development Project and the Harmony Grove Village South Project would also prepare and implement a SWPPP, as required by the NPDES Construction General Permit and implement specific BMPs to reduce potential impacts to water quality (County of San Diego 2018a, 2018b).

As discussed above, the proposed project has been designed to incorporate biofiltration and BMPs to limit the potential for water quality impacts to the greatest extent feasible. By incorporating these features into the project design, the proposed 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 upon the analysis presented in Section 3.9.4 and 3.9.5, no impacts were identified and no mitigation measures are required.

3.9.7 Conclusion

The proposed project would increase the amount of impervious surfaces at the project site; however, with implementation of biofiltration basins, the project site would not significantly alter the drainage patterns on- of off-site. Therefore, hydrologic impacts resulting from the proposed project would be less than significant. Additionally, with incorporation of biofiltration basins and BMPs that would treat and eliminate the potential pollutants, the implementation of a project-specific SWPPP, and compliance with BMPs outlined in the SWQMP, construction and operation of the proposed project would not result in substantial adverse water quality impacts. Thus, water quality impacts would be less than significant.

3.10 LAND USE AND PLANNING

This section analyzes the potential for the proposed project to have impacts related to land use and planning. This section considers consistency with applicable land use plans and habitat conservation plans.

Table 3.10-1 summarizes the project- and cumulative-level land use impact analysis for the proposed 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 southeastern limits of the City of San Marcos (City). The project site is currently within portions of two jurisdictions. Approximately 3.6 acres of the site (APN 228-312-09-00) are within the jurisdiction of the City, while approximately 10.8 acres (APN 228-312-10-00), are within the jurisdiction of the County of San Diego (County). The entirety of the project site is located within the City's General Plan Sphere of Influence (City of San Marcos 2012a).

The project site is undeveloped, with areas disturbed from previous agricultural uses. An existing 9-foot wide unimproved road provides site access via East Barham Drive. The site is located within the Barham/Discovery Community Neighborhood (City of San Marcos 2012a).

Existing General Plan Designation

The San Marcos General Plan identifies the 3.6-acre northern parcel of the project site (APN 228-312-09-00) as "Low Density Residential" (LDR) and the 10.8-acre southern parcel of the site (APN 228-312-10-00) as Light Industrial within the City's General Plan Sphere of Influence (City of San Marcos 2018a). The City's General Plan assigns the density/intensity of the LDR designation as 4.1-

8.0 dwelling unit/acre (du/ac). The southern portion of the project site is located within the County and is designated “Semi-Rural Residential” (SR-1) in the County’s General Plan (County of San Diego 2011). Should the proposed project be approved, the southern parcel would be annexed into the City, and the County’s General Plan would no longer apply to the project site. Thus, the project’s consistency with the County’s General Plan is not analyzed in this section.

Existing Zoning Designation

The northern parcel of the site is zoned Mobile Home Park (R-MHP) by the City (City of San Marcos 2018b). Because the southern parcel is located within the jurisdiction of the County, this parcel is zoned Residential Single (RS) by the County (County of San Diego 2018), and not zoned by the City. Should the proposed project be approved, the southern parcel would be annexed into the City, and the County’s zoning ordinance would no longer apply to the project site. Thus, the project’s consistency with the County’s zoning ordinance is not analyzed in this section.

Surrounding Land Uses

The project site is immediately bordered by low-density residential manufactured homes to the north and west. To the east and south of the project site is a light industrial business park with a variety of businesses, located in the City of Escondido. An existing vacant lot is located to the northeast of the site, within the City of Escondido (zoned as Planned Development – Industrial). Lastly, semi-rural residential lands with associated agricultural and equestrian uses are located to the southwest of the project site, within the County. East Barham Drive and State Route 78 (SR-78) are located just north of the project site, and Meyers Avenue is to the east. Access to the regional highway system is provided at the Auto Park Way/SR-78 interchange, approximately 0.5 miles northeast of the project entrance. The Nordahl Road Sprinter and Breeze transit station is located approximately 0.3 miles from the E. Barham Drive entrance and approximately 0.4 miles from the Meyers Avenue entrance.

Existing General Plan Designations

Refer to Figure 3.10-1 for a depiction of the existing land use designations of the surrounding area. Surrounding land uses directly to the north and east of the site are designated Low Density Residential (LDR) in the City’s General Plan (City of San Marcos 2018a). Land uses directly to the northwest are designated “Semi-Rural Residential” (SR-1) in the County’s General Plan (County of San Diego 2011). Lastly, land uses to the south and east of the site are designated Light Industrial in the City of Escondido General Plan (City of Escondido 2012).

Land use designations within the general area surrounding the project site within the City of San Marcos vary from Low Density Residential, Specific Plan Areas, Parks, Mixed Use, and Rural Residential to the west; and Light Industrial Uses, Neighborhood Commercial, Medium Density Residential, Industrial or Medium High Density Residential to the north (City of San Marcos 2018a).

Land uses generally surrounding the site within the City of Escondido include mostly General or Light Industrial uses to the east and south (City of Escondido 2012). Lastly, the area to the south and southeast of the site is characterized by Semi-Rural Residential (SR-1) and Village Residential (County of San Diego 2011).

Existing Zoning Designations

Surrounding parcels directly to the north and east of the site are zoned Mobile Home Park (R-MHP) by the City (City of San Marcos 2018b). Existing land uses directly to the south and east of the project site are within the jurisdiction of the City of Escondido and zoned Light Industrial (M-1) (City of Escondido 2019). Lastly, land uses to the southwest of the site are zoned Residential Single (RS) by the County (County of San Diego 2018).

The area surrounding the site is characterized by various zoning designations. Within the City of San Marcos, existing zoning to the north of the site includes Light Manufacturing, Industrial and Light Industrial, Neighborhood Commercial, Residential, Residential Low, Planned Residential Development, and Industrial, while land uses to the west of the site generally include Mobile Home Park, Zone Districts (Estate), Residential Low, Planned Residential Development, Mixed-Use, and Public Institutional (City of San Marcos 2018b). Zoning designations surrounding the site within the City of Escondido include mostly General or Light Industrial uses to the east and south (City of Escondido 2012). Lastly, the area to the south and southeast of the site is zoned Residential Mobile Home and Agriculture by the (County of San Diego 2018).

3.10.2 Regulatory Setting

This section provides an overview of the regulatory setting related to planning and land use that apply 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

SANDAG San Diego Forward: The Regional Plan

The Regional Comprehensive Plan (RCP), adopted in 2004 by the San Diego Association of Governments (SANDAG), 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.

In 2011, SANDAG approved the 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). 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 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 a Sustainable Communities Strategy (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.

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 RCP and the 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 and other factors from the cities in the region and the County. SANDAG's Regional Plan will change in response to the ongoing land use planning of the City and other jurisdictions. For example, the City's General Plan, and other local General Plans of cities, may change based on General Plan amendments initiated by the jurisdiction or landowner applicants. The General Plan amendments may result in increases in development densities by amending the regional category designations or zoning classifications. Accordingly, SANDAG's RTP/SCS latest forecasts of future development in the San Diego region, including location, must be coordinated closely with each jurisdiction's ongoing land use planning because that planning is not static, as recognized by the need for updates to SANDAG's RTP/SCS every 4 years.

Multiple Habitat Conservation Program (MHCP)

The MHCP is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County. 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 December 1999 and although the Subarea Plan has not yet been approved by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), 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. 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 (FPAs), 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. As identified above, the project site is located within the northern FPA within the MHCP planning area.

San Diego County Regional Airport Authority/Airport Land Use Commission

The nearest public airport is the McClellan-Palomar Airport, which is located approximately eight miles west of the project site. The McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) 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.

According to the McClellan-Palomar ALUCP, the project site partially lies within Review Area 2 of the airport influence area (AIA). The influence area is regulated by the Airport Land Use Commission (ALUC), 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 City's Land Use and Community Design Element identifies five goals and associated policies to guide well-balanced land use planning in the City. The following goals and policies from the City of San Marcos General Plan, Land Use Element pertain to planning:

- **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.

- **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.

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- **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.

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, below.

County of San Diego General Plan

The 2011 County General Plan Update is the first comprehensive update of the General Plan since the 1970s. The General Plan, which applies to all unincorporated portions of the County, directs population growth and plans for infrastructure needs, development, and resource protection. It will guide the growth and development of the unincorporated County using planning principles designed to create "livable" communities and balance environmental objectives with the needs of adequate infrastructure, housing, agriculture, and economic viability. The southern parcel is located within the jurisdiction of the County and is designated "Semi-Rural Residential" (SR-1) in the County's General Plan (County of San Diego 2011). However, with implementation of the project, this parcel would be annexed into the City. As such, consistency with the County's General Plan was not analyzed in this section.

City of Escondido General Plan

The City's General Plan is a statement of long-range public policy to guide the use of private and public lands with a community's boundaries. The plan is both general and comprehensive in that it provides broad guidelines for development in the City while addressing a wide range of issues that will affect the City's desirability as a place to live, work, and play. The General Plan guides land use and private development, as well as public facilities and services. Furthermore, it addresses community goals and issues regarding human needs such as education, employment, child and elder care, community health and housing, as well as recreation and cultural enhancement. The City's General Plan includes nine elements: Vision and Purpose, Land Use and Community Form, Mobility and Infrastructure, Housing, Community Health and Services, Community Protection, Resource Conservation, Growth Management, and Economic Prosperity. In addition to the General Plan goals and policies, the City's General Plan includes Quality of Life Standards that establish minimum thresholds of service levels for various public improvements and facilities (City of Escondido 2012).

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.

As described above, the northern parcel of the site is zoned Mobile Home Park (R-MHP) by the City (City of San Marcos 2018b). As described in Section 20.245.010 of the City's Zoning Ordinance, land uses allowed in the area include mobile/manufactured homes and parks, residential care facilities, private residential garages, recreational uses, recycling facilities, and communication facilities and public utilities. The northern parcel of the project site is zoned Residential-Single (RS) by the County (County of San Diego 2018).

County of San Diego Zoning Ordinance

The Zoning Ordinance is applicable to all of the unincorporated areas of San Diego County. The use and employment of all land and any buildings or structures located on the land and the construction, reconstruction, alteration, expansion, or relocation of any building or structure on the land must conform to all regulations applicable to the zone in which the land is located. No land, building, structure, or premises can be used for any purpose or in any manner other than is permitted in the zone in which such land, building, structure, or premise is located. The southern parcel is located within the jurisdiction of the County and is zoned Residential Single (RS) by the County (County of San Diego 2018). However, with implementation of the project, this parcel would be annexed into the City. As such, the County's Zoning Ordinance would not apply to the proposed project.

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 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

The project proposes a 192-unit clustered multi-family residential development with private and public open space, active recreational areas, bio-retention areas, circulation improvements, and a public services and facilities plan. The proposed project is requesting approval of an annexation of the southern parcel into the City, a General Plan Amendment (GPA), Rezone, Multi-Family Site Development Plan, Specific Plan, Tentative Map, and Conditional Use Permit, and Grading Variance, each described below.

Annexation

The proposed project would involve annexation of the southern parcel of the site from the County into the City. This proposed annexation would require approval by the County of San Diego Local Agency Formation Commission (LAFCO).

General Plan Amendment, Prezone, and Rezone

The proposed project would involve approval of a GPA to designate the southern parcel of the project site from Semi-Rural Residential (SR-1) (as currently designated by the County), and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to SP). Additionally, a GPA would be required to re-designate the northern parcel of the project site (APN 228-312-09-00) from Low Density Residential (LDR) to Specific Plan Area (SPA). A prezone and rezone would be required to rezone the southern parcel of the project site from Single Family Residential (RS) (as currently designated by the County of San Diego) to SPA. A rezone would be required for the northern parcel of the project site to rezone from Mobile Home Park (R-MHP) to SPA. The GPA and rezoning of the site would allow the Specific Plan to provide rules and regulations for development of the project site. See Figure 3.10-2.

Specific Plan

The project entitlements include a Specific Plan that will guide the orderly development on the project site. The Specific Plan is included as Appendix B of this EIR.

Site Development Plan

A Specific Plan is required to be reviewed and approved concurrently with the Site Development Plan application. A Site Development Plan would be implemented as part of the proposed project.

Tentative Map

The project includes a Tentative Map for the creation of 192 multi-family residential units, private and public open space, active recreational areas, bio-retention areas, circulation improvements, and a public services and facilities plan. The details of the TM are shown on Figures 2-14a and 2-14b.

Conditional Use Permit

The project includes a Conditional Use Permit to allow for the temporary use of a rock crusher during grading operations. Rock crushing will be required during project construction due to bedrock underlying the project site. Crushing activities would last up to 90 days and be limited to Monday through Friday from 9:00 a.m. to 4:00 p.m. As discussed in Section 3.2.4, approximately 30,000 tons of rock would be processed; the rock processing rate would be 750 tons of rock per day and the total operating days would be 40 days.

Grading Variance

As described in Section 2.2.2, a Grading Variance would be required for several slopes within the project site which exceed 20 feet in height. Approval of a grading variance allows for grading of two main pads separated approximately on a north-south centerline of the project site. The variance also allows for a more efficient grading plan requiring less landform modification. Figure 2-11 shows the locations of these slopes. It should be noted that this proposed grading variance has been previously granted on similar projects in the area, is consistent with developments with similar soils and topography, and will meet the criteria of Municipal Code Section 17.32.090.

Wastewater District Annexation

Vallecitos Water District (VWD) provides wastewater and reclamation services to the nearby area. Although the northern parcel is located within VWD's service area for wastewater, the southern parcel is not currently within a service area or a sphere of influence for a wastewater agency. The proposed project would require annexation of the southern parcel into Vallecitos Water District's service area, in order to receive wastewater service.

Threshold #1: Would the project physically divide an established community?

The project site is currently undeveloped and surrounded by residential uses to the north and east and industrial uses to the east. An undeveloped parcel, where off-site improvements are proposed, is located to the northeast. The proposed project would not construct structures that have the potential to physically divide an established community (such as large roadways, walls/fences, etc.). The site currently has no public access and no existing roadways, trails, or other means of travel exist through the project site. With implementation of the proposed project, internal private driveways and alleys proposed within the project site are neighborhood streets which would improve access on and around the site. Therefore, the proposed project would not result in the physical division of an established community. No impact 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?

Plans and policies considered in this analysis include the San Marcos General Plan, the San Marcos Municipal Code Zoning Ordinance Title 20, the McClellan-Palomar Airport Land Use Compatibility Plan, and 2050 Regional Transportation Plan/Sustainable Communities Strategy. The proposed project would require annexation of the southern parcel, currently under the jurisdiction of the County, into the City. As such, because the proposed project would only move forward with the annexation proposed, the County's General Plan is not discussed in this section.

San Marcos General Plan

As identified in the General Plan, the northern parcel of the project site is designated "Low Density Residential" (LDR) while the southern parcel, located within the City's General Plan sphere of influence, is designated as "Light Industrial" (City of San Marcos 2018a). As such, the proposed project would conflict with the current General Plan land use designations as described above. However, the proposed project involves an amendment to the General Plan, changing the land use designations of both parcels to SPA, to be processed concurrently with the development of the proposed project. This GPA would allow the Specific Plan to provide rules and regulations for development of the project site. Nonetheless, although the proposed project would amend the designations of both parcels to SPA, the concurrent process of amending the General Plan designations does not necessarily equate to consistency with the document. As such, a consistency analysis with the City's General Plan goals, that guide development within the City, was included below.

Land Use and Community Design Element

The City's General Plan Land Use Element outlines 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 community. The following applicable land use goals outlined in the City's General Plan include, but are not limited to, the following:

- **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.
- **Goal LU-2:** Promote development standards and land use patterns that encourage long-term environmental sustainability.
- **Goal LU-3:** Develop land use patterns that are compatible with and support a variety of mobility opportunities and choices.

- **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.
- **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.
- **Goal LU-8:** Ensure that existing and future development is adequately serviced by infrastructure and public services.

The proposed project would implement the overarching goals of the City's General Plan, through various proposed features and components such as providing housing near transit and existing commercial and industrial uses; provision of diverse and higher-density housing; designate opportunities for recreational and open space areas; and support vehicular, bicycle, and pedestrian modes of travel, consistent with Goals LU-1 and LU-2. Further, the proposed project would allow for the development of approximately 192 multi-family residential dwelling units, resulting in a gross density of approximately 13.3 dwelling units per acre. As described in the Land Use Element, the Low Density Residential" (LDR) land use designation allows for 4.1 – 8.0 dwelling units/acre (du/ac), while "Light Industrial" allows for a maximum floor area ratio (FAR) of 0.60. As such, the proposed project would result in an increased density on-site compared to uses designated in the General Plan. As such, the proposed project would place higher density housing on the project site in an area served by transit, which would provide for greater viability and a larger customer base for alternative modes of transportation to serve the area, such as the existing Sprinter light rail and Breeze bus transit station, located approximately 0.3 miles from the E. Barham Drive entrance and approximately 0.4 miles from the Meyers Avenue entrance. Bus routes that operate at this transit station include Route 305 and Route 353. Thus, the proposed project's land use would support a variety of mobility opportunities, and would promote multimodal transportation, consistent with Goals LU-2, LU-3, and LU-7. Further, the proposed project would incorporate design standards, such as incorporation of landscaping appropriate to the proposed architectural design, and monuments that are compatible with the surrounding natural landscape features and proposed landscape design. The project would involve 2.86 acres of usable outdoor spaces, including various recreational amenities such as a pool deck, play areas, barbeque counter and patio space, and a bocce ball court and horseshoe pit. These features would create memorable places and enrich community life, consistent with Goal LU-5. Additionally, it should be noted that the proposed residential land uses would be more consistent with the surrounding residential land uses to the north and west. Consistent with Goal LU-8, the project will be required to pay its fair share public facility fees and other development impact fees consistent with the City's Municipal Code; refer to Sections 3.13, 3.14, 3.15, and 3.17 for a discussion of potential impacts to public infrastructure and facilities.

As such, the proposed project would not cause a significant environmental impact due to a conflict with the City's General Plan Land Use Element goals. The remaining goals, including LU-4, LU-6, and LU-9 through LU-17, 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.

Mobility Element

The City's General Plan 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. Relevant General Plan objectives related to transportation include, but are not limited to, the following (also see Section 3.15.2):

- **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.
- **Goal M-2:** Protect neighborhoods by improving safety for all modes of travel and calming traffic where appropriate.
- **Goal M-3:** Promote and encourage use of alternative transportation modes, including transit, bicycles, neighborhood electric vehicles (NEVs), and walking, within the City.

As described above, through increasing the density at the project site, compared to what is currently designated in the City's General Plan, the proposed project would introduce increased density on-site. This would increase ridership/viability of the transit system, including the nearby Sprinter and bus system, and reduce automobile dependence, emissions, and traffic, consistent with the goals of the Mobility Element, including Goal M-3. Further, as described in Section 2.2, through providing secondary access, connections to existing roadways, and access to regional arterial and highway networks and Sprinter/Breeze transit services, the proposed project would provide safety to residents, consistent with Goals M-1 and M-2. Overall, the proposed project would not cause a significant environmental impact due to a conflict with the General Plan's Mobility goals. The remaining goals, M-4 and M-5, are not relevant to this discussion as they do not apply to individual projects or mitigating environmental effects. These goals pertain to promotion of efficient parking within mixed-use developments and the movement of goods throughout the City. Project implementation would not impede the City's ability to achieve these goals.

Conservation and Open Space Element

The City's General Plan Conservation and Open Space Element lists goals and policies that ensure long-term stewardship of habitat and scenic value of natural and cultural open spaces. Relevant overarching goals include the following (also see Section 3.3.2 of this EIR):

- **Goal COS-1:** Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence.
- **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.
- **Goal COS-3:** Protect natural topography to preserve and enhance the natural beauty of San Marcos.
- **Goal COS-4:** Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.
- **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.
- **Goal COS-7:** Achieve sustainable watershed protection for surface and ground water quality that balances social, economical, and environmental needs.
- **Goal COS-8:** Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect.
- **Goal COS-11:** Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

As discussed in Section 3.3.4 of this EIR, although the proposed project would result in impacts to special-status plants, including black sage scrub, white sage scrub, and California buckwheat scrub (Impact BIO-1), and special-status wildlife, including one single male coastal California gnatcatcher, and suitable habitat for these species (Impact BIO-2), mitigation would be implemented to reduce impacts to below a level of significance, consistent with Goal COS-1. As discussed in the same section and under Threshold #3, below, the project site does not fall within the North County MSCP or any other approved Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) subarea plan, which plans for regional biological resource protection and conservation, and would not impede the implementation of the plan, consistent with Goal COS-2. Further, as described in Section 2.2.2.1, the proposed project would include 6.2 acres of open space, consistent with the overarching goals of the Conservation and Open Space Element.

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The project site is not identified as a protected scenic vista. The proposed residential development would be surrounded by existing development on all sides, with the exception of a vacant and undeveloped lot adjacent to the northeast corner of the project site. The project site is not otherwise characterized as a scenic resource. As further discussed in Section 3.1, the project would not result in substantial adverse effects on City scenic resources, consistent with Goal COS-3.

Consistent with Goal COS-5, the project site would be redeveloped in compliance with the California Green Building Code (which implements water efficiency standards for appliances and fixtures), increasing water conservation. Landscaping would be comprised of plants that are consistent with Assembly Bill 1881 requirements and the City of San Marcos Water Efficient Landscape Ordinance (WELO), Municipal Code, Title 20, and the Specific Plan. The proposed project would also not result in the depletion of groundwater supplies and, with implementation of Best Management Practices (BMPs) during construction and biofiltration basins during operations, the project would not result in pollution of surface or groundwater (see Section 3.9.4). As such, the project would be consistent with Goals COS-6, COS-7, and COS-8. Lastly, as discussed in Chapter 5, the project site does not contain any agricultural or mineral resources; thus, no impacts to agricultural and mineral resources would occur, consistent with Goal COS-2.

Consistent with Goal COS-11, cultural, historic, and paleontological resources are discussed and analyzed in Sections 3.4 and 3.6 of this EIR. With implementation of mitigation, impacts to cultural resources would be less than significant. No historic structures exist on site, and none would be impacted by project development.

As such, the proposed project would not cause a significant environmental impact due to a conflict with the goals of the City's General Plan Conservation and Open Space Element. Remaining goals, including COS-9 and COS-10, are not relevant to this discussion as they do not apply to individual projects or mitigating environmental effects. These goals pertain to development of a regulatory framework for watershed protection, and solid waste collection. Project implementation would not impede the City's ability to achieve these goals.

Parks, Recreation, and Community Health Element

The City's General Plan Parks, Recreation, and Community Health Element outlines goals for increased access to parks, trails, recreational facilities, and community service programs for all community members. One relevant overarching goal includes the following (also see Section 3.14.2 of this EIR):

- **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.

As described in Section 3.14.4 of this EIR, the proposed project would incorporate 6.16 acres of open space, including 2.76 acres of common usable open space, which would include recreational amenities such as tot lots, a pool, a bocce ball court and horseshoe pit, and a barbeque counter and patio space. The project would also provide approximately 0.99 acres of private open space. The proposed project would meet and exceed the common useable and private open space requirements per the City's Municipal Code.

Assuming five acres of park space per 1,000 residents (the minimum standard goal of the City's General Plan discussed in Section 3.14.2), the addition of residents on site equates to a demand of approximately 3.0 acres of public park space generated by project residents. The project applicant would be required to pay the City's Public Facility Fees (PFF), required of all projects that increase the demand for park and recreation needs in the City. The PFF money would go towards the acquisition and development of local and community park facilities throughout the City. Payment of the PFF shall be made prior to first phase of project occupancy. Therefore, payment would offset the increase in demand of parks and recreational facilities generated by the proposed project, such that existing facilities would not substantially deteriorate.

Thus, the proposed project would contribute high quality recreational facilities to the City, which would be available to residents (on site) as well as the public (through payment of the PFF). As such, with payment of the required PFF and provision of useable common and private open space, the proposed project would not cause a significant environmental impact due to a conflict with the goals of the City's General Plan Parks, Recreation, and Community Health Element. The remaining goal, PR-2, not relevant to this discussion as it does not apply to individual projects or mitigating environmental effects. This goal pertains to the City's promotion of recreation and community service programs. Project implementation would not impede the City's ability to achieve this goal.

Safety Element

The City's General Plan Safety Element establishes policies and programs to protect public health, safety, and welfare of all residents and property, and identifies and describes plans for response to natural and human-caused safety issues, including geologic, seismic, flood, and fire hazards. Relevant overarching goals include the following (also see Sections 3.6.2, 3.8.2, 3.9.2, 3.13.2 of this EIR):

- **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.
- **Goal S-2:** Minimize the risk to people, property, and the environment due to flooding hazards.
- **Goal S-3:** Minimize injury, loss of life, and damage to property results from structure or wildland fire hazards.

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- **Goal S-4:** Protect life, structures, and the environment from the harmful effects of hazardous materials and 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.
- **Goal S-6:** Provide neighborhood safety through effective law enforcement.
- **Goal S-7:** Comply with the McClellan-Palomar Airport Land Use Compatibility Plan.

The proposed project incorporates various features and components that promote the overarching goals of the General Plan Safety Element. For instance, as discussed in Section 3.13.4 of this EIR, a Conceptual Wildland Fire Evacuation Plan (Evacuation Plan) for the proposed project was prepared by Dudek based on the City's Emergency Operations Procedures, the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan (EOP) – Evacuation Annex. The Evacuation Plan is included as Appendix G3 of this EIR, and establishes a framework for implementing well-coordinated evacuations at the site, consistent with Goal S-3 and S-5. Further, as discussed in Section 3.6.4 of this EIR, with incorporation of the recommendations outlined in the Geotechnical Investigation (see Appendix F1), the proposed project would not result in significant impact to geology and soils; thus, the project would comply with safety goals related to geologic and seismic hazards, including Goal S-1. Further, as discussed in Section 3.8.4 of this EIR, with compliance with existing regulations for handling, using, and transporting hazardous waste, as well as the recommendations found in the Phase 1 ESA (Appendix G1) prior to construction, the project would not result in impacts related to hazardous materials, and would not conflict with Goal S-4. The proposed project is not located in a 100-year flood hazard area. With implementation of BMPs, the project would be designed to collect and convey runoff from 100-year storm events and carefully handle runoff and meet regulatory requirements, and would not result in safety impacts related to flooding (see Section 3.9.4 of this EIR). As discussed in Section 3.13.4 of this EIR, although the project would increase demand for police protection, the project also incorporates design features such as controlled access gates and the project entries, walls/fencing, and lighting, to improve the safety of future residents and guests. As such, the project would not conflict with effective law enforcement, as described under Goal, S-6. Compliance with the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP), per Goal S-7, is discussed in detail below. As such, the proposed project would not cause a significant environmental impact due to a conflict with the goals of the City's General Plan Safety Element.

Noise Element

The City's General Plan Noise Element identifies problematic noise sources within the City, outlines strategies to reduce overall ambient noise levels, and includes measures to strategically distribute land uses throughout the City. Relevant overarching goals include the following (also see Section 3.11.2 of this EIR).

- **Goal N-1:** Promote a pattern of land uses compatible with current and future noise levels.
- **Goal N-2:** Control transportation-related noise from traffic, rail, and aviation sources near noise sensitive land uses.
- **Goal N-3:** Control non-transportation-related noise from commercial, industrial, construction, and other sources on noise sensitive land uses.

A Noise Assessment for the proposed project was prepared by Dudek and included in Appendix I of this EIR. As described in Section 3.11.4, a substantial increase in ambient noise levels is defined as a greater than 3 dBA increase where ambient noise is between 60 and 65 dBA, and a greater than 1.5 dBA increase where ambient noise exceeds 65 dBA. Construction of the proposed project would comply with the City's noise ordinance. Regarding traffic noise, roadway traffic noise increase would be less than 3 dB over existing traffic noise levels during construction. Further, with regard to existing off-site receptors, potential noise impacts associated with implementation of the project would be less than significant. However, as discussed in Section 3.11.4 of this EIR, construction noise impacts could occur from use of construction equipment and rock crushing activities. Nonetheless, with implementation of mitigation measure MM-NOI-1 through MM-NOI-4, outlined in Section 3.11.4 of this EIR, impacts would be less than significant. Further, as described in Section 3.11.4, exterior noise exposure for the upper-floor levels (not ground floor) of the proposed project's future residences is calculated at 60 dBA CNEL at some locations. The project would increase noise levels by less than 1 dB at off-site locations. Thus, the project would not create a substantial increase in the ambient noise levels in the project vicinity. Based on a noise reduction of 20 dBA provided by standard construction techniques, interior noise levels within the proposed project would range from approximately 35 to 41 dBA CNEL. Thus, interior noise levels would be lower than 45 dBA CNEL. As such, the proposed project would not cause a significant environmental impact due to a conflict with the goals of the City's General Plan Noise Element.

Housing Element

The City's General Plan 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. Relevant overarching goals include the following (also see Section 3.12.2 of this EIR).

- **Goal 1:** Provide a broad range of housing opportunities with emphasis on providing housing which meets the special needs of the community.
- **Goal 2:** Protect, encourage, and provide housing opportunities for persons of lower and moderate incomes.
- **Goal 4:** Reduce or remove governmental constraints to the development, improvement, and maintenance of housing where feasible and legally permissible.

The proposed project would include the development of 192 multi-family residential units. As described in Section 2.1, one of the primary objectives of the project is to provide a multi-family housing opportunity through a range of unit types, sizes, and number of different bedroom counts, including 2, 3, and 4-bedroom units, as well as a range of affordability to accommodate a full spectrum of family demographics. The project would comply with the City's affordability requirement, per Section 20.305.040 of the City's Zoning Ordinance (City of San Marcos 2012b). The project would contribute to the growing housing needs of the region, and provide housing in proximity to SR-78 and the Nordahl Road Sprinter Station. The City's General Plan Housing Element does not pertain to impacts on the environment. As such, the proposed project would not cause a significant environmental impact due to a conflict with the goals of the City's General Plan Housing Element. The remaining goals, Goal 3 and Goal 5, pertain to the existing housing stock and equal opportunity housing within the City. Project implementation would not impede the City's ability to achieve these goals.

San Marcos Municipal Code Zoning Ordinance Title 20

As described in Section 3.10.2, above, the northern parcel of the site is zoned Mobile Home Park (R-MHP) by the City (City of San Marcos 2018b). A rezone would be required to re-designate the northern parcel to SPA. Because the southern parcel is located within the jurisdiction of the County, this parcel is not zoned by the City. This parcel is zoned Residential Single (RS) by the County (County of San Diego 2018) and will be annexed into the City of San Marcos with implementation of the proposed project. A rezone would be required to re-designate the southern parcel of the project site from Single Family Residential (RS) (as currently designated by the County of San Diego) to SPA. The project includes a Specific Plan, a comprehensive planning document that establishes development guidelines for the project site and serves as the primary land use, policy, and regulatory document for the project by providing a development planning review process, as authorized by California Government Code §65450, in conjunction with the City of San Marcos Zoning Ordinance, Chapter

20.535. As such, the rezoning of both parcels would allow the Specific Plan to provide rules and regulations for development of the project site. Thus, with the proposed rezoning of the site, the project would be consistent with the City's Zoning Ordinance. Impacts would be less than significant.

McClellan-Palomar Airport Land Use Compatibility Plan

As identified above, the project site partially lies within Review Area 2 of the McClellan-Palomar airport influence area, which places limits on heights of structures in areas of high terrain, and may therefore be subject to ALUC review, if elected by the agency.

The project site is not characterized as a high terrain area. The topography of the project site generally descends from the southwest to the northeast and ranges in elevation from approximately 700 to 815 feet above mean sea level (amsl) (Appendix F1). According to the ALUCP, high terrain would be well over 1,500 feet in the project vicinity and the project site does not contain areas that fall into a height notification boundary (San Diego County Regional Airport Authority 2011). Two- and three-story townhomes would be developed throughout the site. All two-story buildings would be approximately 30 feet in height and none of the proposed structures would exceed 40 feet in height.

The project site is outside the 60 dB CNEL noise contour area outlined in the McClellan-Palomar ALUCP (San Diego County Regional Airport Authority 2011). Nevertheless, per Chapter 20.265 of the City's Municipal Code all residential development within Review Area 2 is required to record overflight notification documents, notifying residents of potential annoyances commonly associated with proximity to airports, such as noise, vibration, and overflights. This would be required as a condition of project approval. As such, the project would be consistent with the requirements of the McClellan-Palomar ALUCP and the requirements of Chapter 20.265 of the City's Municipal Code and would not result in a significant environmental impact due to a conflict with the McClellan-Palomar Airport Land Use Compatibility Plan.

2050 Regional Transportation Plan/Sustainable Communities Strategy

SANDAG's 2050 Regional Transportation Plan/Sustainable Communities Strategy (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. As discussed in Section 2.2.2.2 of this EIR, the project incorporates an interconnected mobility system for bicycles, pedestrians, and vehicles, such as internal roadways designed to provide safe and quiet movement of bicycle, pedestrian, and vehicle traffic (see Figure 2-8). Further, as described in Section 3.15.6, the project will contribute a fair share for improvement to the local street network (see mitigation measures MM-TR-1 and MM-TR-6 in Section 3.15.6).

The SCS outlines how the region will reduce greenhouse gas (GHG) emissions to state-mandated levels as required by Senate Bill 375. The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. The GHG reduction targets to be achieved through the adoption of SANDAG's SCS are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2023 (SANDAG 2011). As discussed in Section 3.7.4, although the proposed project would not be consistent with the existing zoning and land use designations, the project would generate fewer GHG emissions at buildout than potential development permitted under the existing 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.

Conclusion

With approval and adoption of the GPA by City Council, rezoning of the site, and approval of an annexation of the southern parcel into the City, the proposed project would not result in environmental impacts due to a conflict with the City's General Plan or any other applicable plan or policy, including the City's zoning ordinance, the McClellan-Palomar Airport Land Use Compatibility Plan, and 2050 RTP/SCS. Therefore, impacts would be less than significant with mitigation.

3.10.5 Cumulative Impact Analysis

As described in Section 3.10.3, above, while the project would require a GPA and rezoning of the site, the proposed project would be consistent with the overarching goals of the City's General Plan. In addition to the General Plan, the project would also be consistent with the City's Municipal Code, the McClellan-Palomar ALUCP, SANDAG's 2050 RTP/SCS, and the MHCP. All cumulative projects listed in Table 2-3 would be subject to similar criteria as the proposed project, which would ensure compliance with existing applicable land use plans with jurisdiction over the project area. Any cumulative projects that propose amendments to the General Plan or Zoning Ordinance 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 proposed project. Since all current and future projects would be analyzed for compatibility and compliance with land use regulations prior to approval, a cumulative impact would not occur.

3.10.6 Mitigation Measures

The following mitigation measures would reduce impacts to less than significant.

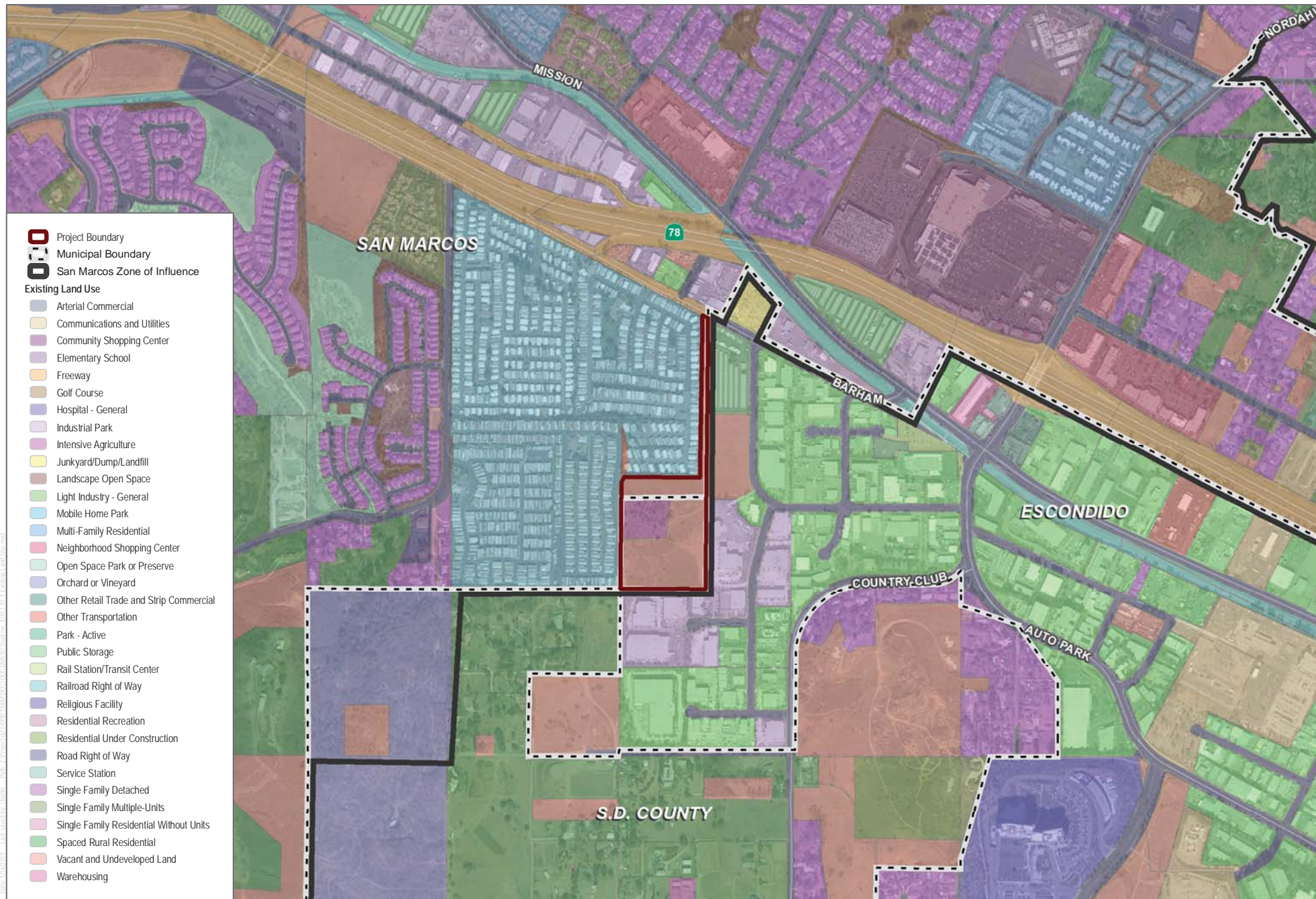
MM-BIO-1 through **MM-BIO-4** (See Section 3.3, Biological Resources)

MM-NOI-1 through **MM-NOI-4** (See Section 3.11, Noise)

3.10.7 Conclusion

Based upon the analysis presented in Sections 3.10.4 and 3.10.5, land use impacts were determined to be less than significant. As described above, with incorporation of mitigation measures MM-BIO-1 through MM-BIO-4, described in Section 3.3, Biological Resources, MM-NOI-1 through MM-NOI-4, described in Section 3.11, Noise, the project would be consistent with the applicable goals and policies of the City's General Plan. The project would also be consistent with the MHCP, as well as the McClellan-Palomar ALUCP, and the SANDAG's 2050 RTP/SCS. As such, impacts related to land use and planning would be less than significant with mitigation.

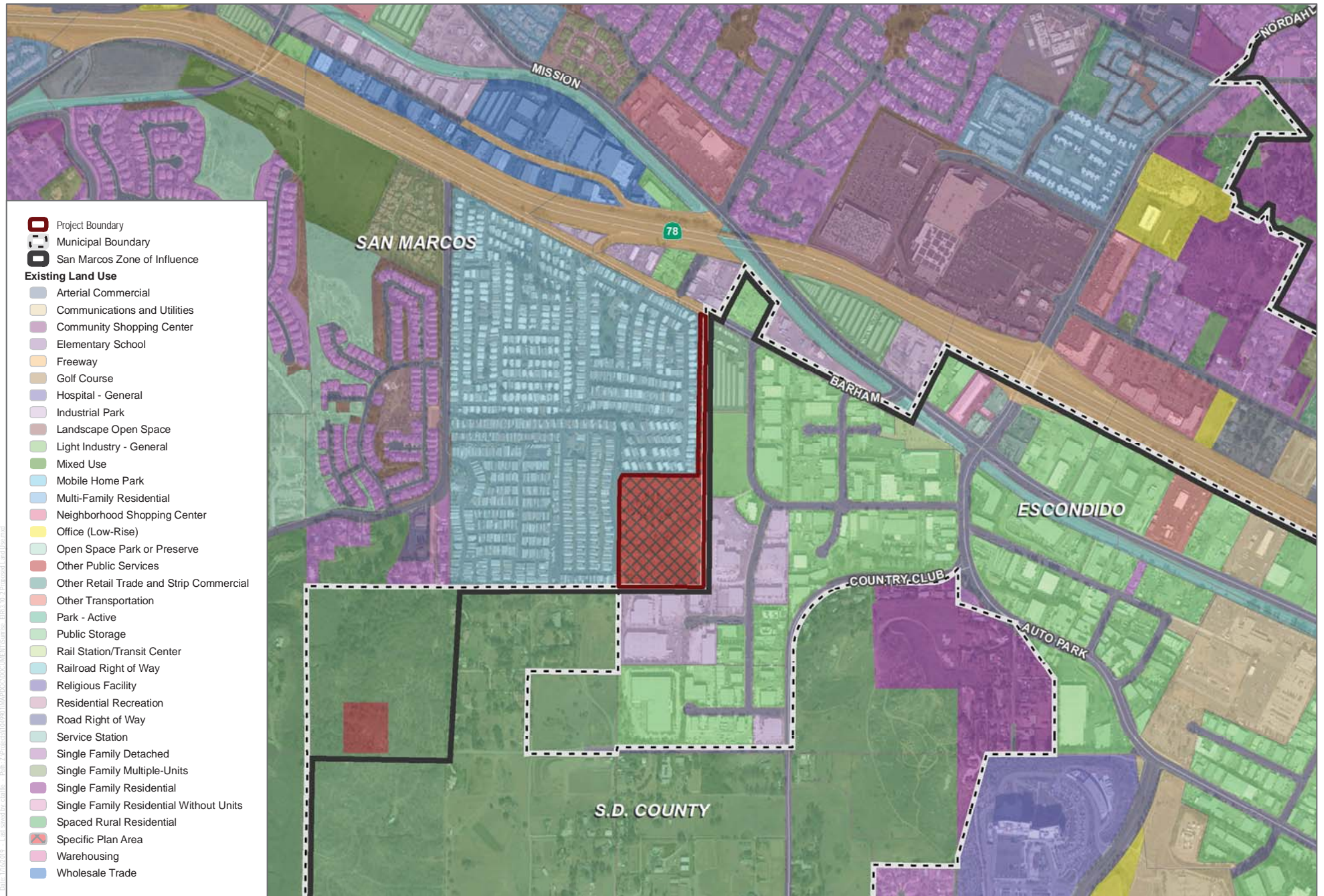
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SOURCE: BING 2018

FIGURE 3.10-1
Existing Land Use

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SOURCE: BING 2018

FIGURE 3.10-2

Proposed Land Use

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3.11 NOISE

This section discusses the existing noise and vibration setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Sunrise Specific Plan project (project). This section is based on the Noise Analysis prepared for the proposed project by Dudek in August 2019, which is included as Appendix I to this EIR.

Table 3.11-1 summarizes the project- and cumulative-level noise impact analysis for the proposed 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.	Potentially Significant	Less than Significant	Less than Significant with MM-NOI-1 through MM-NOI-4
#2- Generation of excessive groundborne vibration or groundborne noise levels.	Potentially Significant	Less than Significant	Less than Significant with MM-NOI-1 through MM-NOI-4
#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 analysis and a description of the existing noise environment on the project site and surrounding area and details the results of the ambient noise monitoring conducted by Dudek in 2018.

Background

Noise

Noise is generally defined as “unwanted sound” that interferes with normal activities. Excessive levels of noise can cause hearing loss, although the principal human response to environmental noise is annoyance. Noise is measured on a logarithmic scale of sound pressure level known as decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise sources by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only frequencies audible to the human ear. Equivalent sound level (L_{eq}) is the noise metric used to collect short-term noise level measurement samples. It represents a steady state sound level containing the same total energy as a time varying signal over a given sample period, with L_{max} and L_{min} as the maximum and minimum, respectively. Community receptors are more sensitive to unwanted noise intrusion during the evening and at night. State law requires that, for some planning purposes, an artificial dBA increment be added to quiet time noise levels in a 24-hour A-weighted average noise descriptor called the Community Noise Equivalent Level (CNEL). In general, a change of 10 dBA is perceived as twice as loud (i.e., 65 dBA sounds twice as loud as 55 dBA to a human ear), a 5 dBA change in community noise levels is clearly noticeable, and a 3 dBA change is the smallest increment that is perceivable by most people. Changes of 1 to 2 dBA are not usually detectable by the human ear.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source, such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or “line” source, such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise.

Surrounding site conditions, meteorological conditions, and the presence of manmade obstacles such as buildings and barriers may also reduce noise at the location of a receiver. For example, vegetation and loose soils may either absorb or scatter the sound from roadways, yielding sound attenuation rates in environments with these major ground effects that are as high as 4.5 dBA for each doubling of distance (compared to 3 dBA without major ground effects). In addition, barriers between a noise source and a receiver can substantially reduce noise levels at the receiver. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction. Taller barriers will provide increased noise reduction.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Human response to vibration is best approximated by the vibration velocity level.

Heavy equipment operation, including stationary equipment that produces substantial oscillation or construction equipment that causes percussive action against the ground surface, may be perceived by building occupants as perceptible vibration known as "structureborne/groundborne" vibration. Vibration in buildings is typically perceived as rattling of windows or items on shelves or the motion of building surfaces. The vibration of building surfaces can also be radiated as sound and heard as a low-frequency rumbling noise, known as groundborne noise. Although the perceived vibration from such equipment operation can be intrusive to building occupants, the vibration is seldom of sufficient magnitude to cause even minor cosmetic damage to buildings unless the receptors are in proximity to heavy equipment.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to rapidly decrease with distance away from the source. Soil properties also affect the propagation of vibration. Man-made vibration issues are, therefore, usually confined to short distances from the source (i.e., 50 feet or less).

Vibration amplitudes are usually described in terms of peak levels, as in peak particle velocity (PPV) in inches/second that correlates best with human perception. The particle velocity is the velocity of the soil particles resulting from a disturbance. Agencies such as California Department of Transportation (Caltrans) use the PPV descriptor because it correlates well with damage or complaints. Caltrans estimates that the threshold of perception is approximately 0.006 inches/second PPV and the level at which continuous vibration begins to annoy people is approximately 0.010 inches/second PPV (Caltrans 2013).

Existing Noise Environment

The project site is currently vacant, with areas disturbed from previous agricultural uses. The project site does not currently contain any sources of noise or vibration generation.

The project site is immediately bordered by low density residential manufactured homes to the north and west. To the east and south of the project site is a light industrial business park with a variety of businesses located within the City of Escondido. Further east/northeast are additional light industrial businesses and development. To the southwest, within the County of San Diego are semi-rural residential lands with associated agricultural and equestrian uses. E. Barham Drive and State Route 78 (SR-78) are located just north of the project site, and Meyers Avenue is to the east. Sources of noise in the surrounding area primarily include traffic from local roadways and SR-78.

3.11 Noise

Existing ambient noise levels were measured by Dudek in June 2018 in the vicinity of the project site. Monitoring locations are shown on Figure 3.11-1. Short-term measurements were conducted with sound level meters placed on tripods with the microphone positioned approximately 5 feet above the ground. The short-term measurements were 8 to 25 minutes long depending on the location. Table 3.11-2 presents the results of the short-term noise measurements.

Table 3.11-2
Short-Term Sound Level Measurements

Site/ Land Use	Description/ Noise Sources Observed	Date/ Time	L _{eq} ¹	L _{max}	L _{min}	L ₉₀	L ₅₀	L ₁₀	Cars ²	MT ³	HT ⁴	Motorcycles	B/M ⁵
ST1	Commercial land uses (zoned as General Industrial M-2) north of project site within City of Escondido / Traffic, Birds, distant Aircraft, distant Traffic, 15 feet from the edge of the road. Approximately 1,350 feet north of project site.	2018-06-19, 11:30 AM to 11:40 AM	71	87	53	55	65	74	110	2	1	1	1
ST2	Residential land uses (zoned as Mobile Home Park, R-MHP) west of project site within City of San Marcos / Distant traffic, Birds, distant Aircraft, distant Conversations Yelling, distant Traffic. Approximately 365 feet north of project site.	2018-06-19, 11:18 AM to 11:33 AM	48	61	43	44	45	49	0	0	0	0	0
ST3	Commercial land uses (zoned as General Industrial M-2) east of project site within City of Escondido / Traffic, Birds, distant Aircraft, distant Conversations Yelling, distant Traffic, rustling Leaves, 15 feet from the edge of the road, Approximately 600 feet northeast of project site.	2018-06-19, 11:50 AM to 12:15 PM	62	77	50	52	54	67	92	6	6	3	3
ST4	Residential land uses (zoned as Residential Low (Planned Residential Development), R-1-10 (PRD)) northwest of project site within City of San Marcos / Traffic, 100 feet from the edge of the road. Approximately 2,800 feet northwest of project site.	2018-06-19, 11:01 AM to 11:09 AM	71	79	66	68	70	73	866	28	22	0	0

Source: Appendix I

Notes:

¹ Equivalent Continuous Sound Level (Time-Average Sound Level)

² Number indicates total cars counted at this monitoring location

³ Medium Trucks; number indicates total counted at this monitoring location

⁴ Heavy Trucks; number indicates total counted at this monitoring location

⁵ Buses/Motorcycles; number indicates total counted at this monitoring location

* Conditions: Temperature: 70° Fahrenheit, clear sky, 5 miles-per-hour light/gusty southwest wind

L_n (i.e. L₉₀, L₅₀, and L₁₀) = statistical sound levels, where "n" is the cumulative percentage during a time period that the indicated sound level is exceeded. For example, if L₉₀ is 45 dBA, for 90% of the monitoring period, the sound level is 45 dBA or lower.

The noise levels identified in Table 3.11-2 indicate the general noise exposure in the project area. Noise levels at specific locations vary depending on proximity to roads and other noise sources.

Sensitive Receptors

Uses that are typically considered noise sensitive include residences, schools, hospitals, parks, and wildlife habitats. The nearest sensitive receptors to the project site are the residences located adjacent to the north and west boundaries of the project site.

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)).

Environmental Protection Agency Guidelines

The United States Environmental Protection Agency (EPA) has set forth guidelines regarding noise levels identified as a requisite to protect public health and welfare related to noise in its document entitled "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety." This document provides 24-hour exposure limits to protect against hearing loss as 70 dB L_{eq} (24 hours), and also specifies indoor residential activity not be exposed to greater than a day-night noise level (L_{dn}) of 45 dBA (EPA 1974).

In order to determine a significant increase in noise exposure from the existing conditions to existing plus project condition or cumulative to cumulative plus project, the values in Table 3.11-3 are used as recommendations based on studies by the Federal Interagency Committee on Noise (FICON 2000). The FICON studies assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON findings provide some guidance as to the significance of changes in ambient noise levels due to transportation noise sources. The FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that interferes with speech and conversation, sleep, or the desire for a tranquil environment.

The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} . The changes in noise exposure relative to existing noise levels, as shown in Table 3.11-3, are considered to be changes that are sufficient to cause annoyance and potentially to interfere with normal activities at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis for traffic noise described in terms of L_{dn} . The FICON recommendations are not applicable to temporary increases in noise such as from construction activities; noise from construction are regulated by local municipal code standards, as detailed below. Similarly, noise from on-site stationary sources is regulated by local municipal code standards.

As shown in Table 3.11-3, an increase in noise from similar sources of 5 dBA or more would be noticeable where the ambient level is less than 60 dBA. Where the ambient level is between 60 and 65 dBA, an increase in noise of 3 dBA or more would be noticeable, and an increase of 1.5 dBA or more would be noticeable where the ambient noise level exceeds 65 dBA L_{dn} . The rationale for the criteria shown in Table 3.11-3 is that, as ambient noise levels increase, a smaller increase in noise resulting from a project would be noticeable.

Table 3.11-3
Significance of Changes in Noise Exposure

Ambient Noise Level without Project	Increase Required for Significant Impact
< 60 dB	+5.0 dB or more
60–65 dB	+3.0 dB or more
> 65 dB	+1.5 dB or more

Source: (FICON, 2000)

Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) Standards

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) are routinely used for projects evaluated by local jurisdictions. The FTA and Federal Railroad Administration (FRA) have published guidelines for assessing the impacts of ground-borne vibration associated with rail projects. Table 3.11-4 includes the FTA construction vibration damage criteria.

Table 3.11-4
FTA Construction Vibration Damage Criteria

Building Category	Peak Particle Velocity (PPV) (in/sec)	Approximate L_v *
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94

Table 3.11-4
FTA Construction Vibration Damage Criteria

Building Category	Peak Particle Velocity (PPV) (in/sec)	Approximate L_v *
IV. Buildings extremely susceptible to vibration damage	0.12	90
*Root mean square (RMS) velocity in decibels (VdB) re 1 micro-inch/second.		

Source: 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.

State of California Code of Regulations Title 24

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multi-family residential buildings (Title 24, Part 2, California Code of Regulations). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{dn}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{dn}) of at least 45 dBA [California's Title 24 Noise Standards, Chap. 2-35].

State of California Code of Regulations Title 8

Because blasting would be used to fracture rock on-site for further size reductions, State blasting standards would apply. These standards are found in the California Code of Regulations, Title 8, Subchapter 7 (General Industry Safety Orders), Group 18 (Explosives and Pyrotechnics), Article 116 (Handling and prohibitions, and procedures for safe handling of explosives, setting of charges, and other blasting activities). Anyone conducting blasting must obtain a blaster's license from the Department of Industrial Relations (DIR), Division of Occupational Safety and Health, in order to ensure

that blasters possess an adequate level of knowledge about blasting safety, to restrict the use of explosives by blasters to those categories about which they have knowledge and experience, and to establish and maintain a list of licensed blasters (Title 8 California Code of Regulations Sections 344.20 through 344.22).

Caltrans Transportation and Construction Vibration Guidance Manual

Caltrans provides vibration criteria in the Transportation and Construction Vibration Guidance Manual (Caltrans 2013; see Appendix I). Maximum PPV levels for different types of receiving building structures are listed in the Caltrans manual. Table 3.11-5 shows the structure and condition of buildings along with recommended maximum PPV for transient and continuous sources.

Table 3.11-5
Caltrans Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	<i>Transient Sources</i>	<i>Continuous/ frequent Intermittent Sources</i>
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile Buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/ commercial buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment

Source: Appendix I.

For fragile historic buildings, the maximum PPV for transient sources is 0.12 inches/second, which is consistent with the FTA guidance. Older residences have maximum recommended PPV of 0.5 inches/second for transient sources such as blasting, which corresponds to approximately 102 VdB.

With respect to human annoyance, Caltrans guidance indicates that 0.1 inches per second PPV represents a “begins to annoy” threshold, and due to lack of local regulation or guidance would be considered for purposes of this analysis to be the impact criteria for occupants of nearby residences. This annoyance assessment for occupants of residences is separately addressed from the building damage risk for the structures they occupy that are evaluated with respect to appropriate Caltrans thresholds appearing in Table 3.11-5.

Local

As part of the proposed project, the project site, which is partially within the City of San Marcos, would be annexed in full by the City, located to the north and west. The City of Escondido is located to the east and south of the project site, and the County of San Diego is located to the southwest. As noise generated from the project site would affect noise levels in these jurisdictions, the applicable regulatory background relating to noise for each of these jurisdictions is summarized below.

City of San Marcos General Plan

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 overflight notification area consistent with the ALUCP.

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.

City of San Marcos Municipal Code

Chapter 10.24 (Noise)

The City's Municipal Code Chapter 10.24 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 Code does not set noise limits on construction activities. Commonly, the City has utilized the County of San Diego's Noise Ordinance noise limit of 75 dBA for construction activities.

Section 17.32.180 (Grading Operation Restrictions)

The City's Municipal Code Section 17.32.180 addresses the time limits that apply to grading, extraction, and blasting between 7:00 a.m. and 4:30 p.m. Monday through Friday. Grading, extraction, or related earth moving is not allowed in the City on the weekends or holidays. The Municipal Code does not set noise limits on construction activities. Commonly, the City has utilized the County of San Diego's Noise Ordinance noise limit of 75 dBA for construction activities.

The Noise Element of the County of San Diego General Plan establishes limitations on sound levels to be received by various land uses. New development may cause an existing noise sensitive land use (NSLU) to be affected by noise caused by the new development, or it may create or locate a NSLU in such a place that it is affected by noise. The Noise Element identifies airports and traffic on public roadways as the major sources of noise. The County Noise Element establishes the exterior noise level standards and provides interior standards and definitions. If the exterior noise level would exceed 75 dBA CNEL, new development would not be approved.

Section 17.60 (Blasting Operations)

The City's Municipal Code includes a chapter on Blasting Operations (Chapter 17.60). Noise levels from blasting are not discussed in the chapter. The particular purpose is to define hours of operation and notification and inspection process to protect nearby residents and residences from damage or injury due to blasting. Section 17.60.060 identifies specific blasting procedures that are applicable to the project. These requirements include:

- The blaster shall notify the Building Division and the Fire Department no less than 12 hours prior to any blasting at the location or locations of the blasting, number of blasts or explosions, type of explosives to be used, and scheduled time blasting will begin, and name of contractor and Certificate of Authorization date.
- The general contractor or property owner/developer shall give reasonable notice in writing at the time of issuance of a building permit, grading permit or encroachment license to all residences or businesses within 600 feet of any potential blast location. The notice shall be in a form approved by the Building Official. Any resident or business receiving such notice may request of the Building Official that a notice of impending blasting be given by the blaster at the time of the 12-hour advance notice given to the Building Official. The general contractor or property owner/developer shall make all reasonable efforts to contact any and all parties requesting the second notice.
- The blaster shall file a written certification with the Building Official certifying that the general notice required by Section 17.60.060(b) has been given. The certificate shall include addresses and date(s) of notification. A copy shall be retained on file at the Building Division.
- Inspections of all structures within 300 feet of the blast site shall be made before blasting operations. The persons inspecting shall obtain the permission of the building owner to conduct an inspection. The inspections shall be done by a registered structural engineer employed by the blaster or project contractor. The inspection shall be only for the purpose of determining the existence of any visible or reasonably recognizable pre-existing defects or damages in any structure. Inspection refusal shall be at the discretion of the property owner.
- The structural engineer shall file a written report identifying all findings of the inspections with the Building Division. The report shall be signed by the engineer and countersigned by the contractor/developer or his agent receiving the report.
- The blaster shall confirm with the Building Division and Fire Department scheduled blasts no less than one hour prior to the scheduled blast.
- The blaster shall permit Fire Department personnel to inspect the blast site and blast materials or explosives at any reasonable time prior to any blasting. The general contractor and blaster shall request and arrange 12 hours in advance of the blast to have a Fire Department official present during the blast. The Fire Department shall, whenever possible and practicable, assign a Department member to be present to observe the blast.

- Blasting shall only be permitted between the hours of 9:00 AM and 4:00 PM during any weekday, Monday through Friday, exclusive of City recognized holidays unless special circumstances warrant another time or day and special approval is granted by the Building Official and Fire Chief.
- Possession, storage, transportation and use of explosives and blasting agents shall be in accordance with the Uniform Fire Code as adopted by Ordinance of the San Marcos Fire Protection District.

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. Section 20.300, Performance Standards, within the Zoning Ordinance identifies noise regulations to prohibit unnecessary, excessive, and annoying noises. Table 20.300-4, included below as Table 3.11-6 identifies allowable noise levels (dBA) by zone type. For single family residential the allowable noise level, as measured at the property line is 60 dBA from 7 a.m. to 10 p.m. and 50 dBA from 10 p.m. to 7 a.m. Increases in allowable noise levels listed in Table 3.11-6 may be permitted in accordance with the standards outlined in Table 3.11-7.

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) L_{eq} standard. A calibration check shall be made of the instrument at the time any noise measurement is made.
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 as Table 3.11-6]. Increases in allowable noise levels listed in Table 20.300-4 [shown as Table 3.11-6] may be permitted in accordance with the standards outlined in Table 20.300-5 [shown as Table 3.11-7].

Table 3.11-6
Exterior Noise Standards by Zone

Zone	Allowable Noise Level (dBA L_{eq}) Measured from the Property Line
<i>Single-Family Residential (A, R-1, R-2)^{1, 2}</i>	
7 a.m. to 10 p.m. (daytime)	60
10 p.m. to 7 a.m. (overnight)	50

Table 3.11-6
Exterior Noise Standards by Zone

Zone	Allowable Noise Level (dBA L _{eq}) Measured from the Property Line
<i>Multifamily Residential (R-3) 1, 2</i>	
7 a.m. to 10 p.m. (daytime)	65
10 p.m. to 7 a.m. (overnight)	55
<i>Commercial (C, O-P, SR) ³</i>	
7 a.m. to 10 p.m. (daytime)	65
10 p.m. to 7 a.m. (overnight)	55
<i>Industrial</i>	
7 a.m. to 10 p.m. (daytime)	65
10 p.m. to 7 a.m. (overnight)	60

Notes:

- ¹ For single-family detached dwelling units, the "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which 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 percent 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 which 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.

Source: City of San Marcos 2017 (Table 20.300-4)

3. No person shall create nor allow the creation of noise that causes the interior noise level when measured within a dwelling unit to exceed forty-five (45) dBA at any time, except as permitted by Table 20.300-6 [shown as Table 3.11-8].
4. 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 3.11-7
Permitted Increase in Noise Levels

Permitted Increase (dBA)	Duration (cumulative minutes per hour)
5	15
10	5
15	1
20	Less than 1 minute

Source: City of San Marcos 2017 (Table 20.300-5)

Table 3.11-8
Permitted Increase in Interior Noise Levels

Permitted Increase (dBA)	Duration (cumulative minutes per hour)
5	1
10	Less than 1 minute

Source: City of San Marcos 2017 (Table 20.300-6)

City of Escondido Municipal Code

The City of Escondido's Noise Ordinance (Municipal Code Article 12, Noise Abatement and Control; City of Escondido 1990) contains regulations restricting land use related noise-generating activities and operations, so as to avoid a noise nuisance in the community. Section 17-228 establishes the methods for which any sound or noise measurement shall be measured within the City of Escondido. These methods apply to both indoor and outdoor measurements. Section 17-229 establishes the maximum allowable exterior noise limits, based upon the classification of the receiving land use. These standards typically apply to stationary sources such as noise from mechanical equipment (including mechanical ventilation and air condition noise, pool pump noise) or event noise, as opposed to traffic noise. For instance, a school, commercial enterprise, or industrial operation must not generate noise that exceeds a certain specified noise level at any property boundary where an adjacent residential use exists. The pertinent portions of Section 17-229 are listed below:

Section 17-229c (5a): If the noise is continuous, the Leq for any hour will be represented by any lesser time period within that hour. Noise measurements of a few minutes only will thus suffice to define the noise level.

Section 17-229 (5b): If the noise is intermittent, the Leq for any hour may be represented by a time period typical of the operating cycle. Measurement should be made of a representative number of noisy/quiet periods. A measurement period of not less than 15 minutes is, however, strongly recommended when dealing with intermittent noise.

Section 17-229c (5c): In the event the alleged offensive noise, as judged by the enforcement officer, contains a steady, audible sound such as a whine, screech or hum, or contains a repetitive impulsive noise such as hammering or riveting, the standard limits set forth in Table 2.6-2, City of Escondido Exterior Sound Limit Levels, shall be reduced by 10 dB or to the ambient noise level when such noises are not occurring.

Section 17-229c (5d): If the measured ambient level exceeds that permissible in Table 2.6-2, the allowable noise exposure standard shall be the ambient noise level. The ambient level shall be measured when the alleged noise violations source is not operating.

Section 17-229c (5e): The sound level limit at a location on a boundary between two land use classifications is the limit applicable to the receiving land use; provided, however, that the one-hour average sound level limit applicable to extractive industries including, but not limited to, borrow pits and mines, shall be 75 dB at the property line regardless of the zone where the extractive industry is actually located. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

Section 17-234 regulates construction noise in the City of Escondido. The pertinent portions of Section 17-234 are summarized below:

Section 17-234(a): It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site, except on Monday through Friday during a week between the hours of seven (7) a.m. and six (6) p.m. and on Saturdays between the hours of nine (9) a.m. and five (5) p.m., and provided that the operation of such construction equipment complies with the requirements of subsection (d) of this section.

Section 17-234(b): It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site on Sundays and on days designated by the president, governor or city council as public holidays.

Section 17-234(d): No construction equipment or combination of equipment, regardless of age or date of acquisition, shall be operated so as to cause noise in excess of a one hour average sound level limit of seventy-five (75) dB at any time, unless a variance has been obtained in advance from the city manager.

Section 17-234(e): Persons engaged in construction for profit or as a business shall post signs at conspicuous places on a construction site, indicating hours of work as prescribed by this article or authorized by permit and the applicable noise level limits.

City of Escondido General Plan

The City of Escondido General Plan (General Plan) Community Protection Element (Section 5, Noise) indicates that the maximum normally acceptable noise level for new single-family and duplex residential development is a community noise equivalent level (CNEL) of 60 dBA¹ (City of Escondido 2012). The range considered by the City to be conditionally acceptable for single family and duplex residential development is 60 to 70 dBA CNEL². The City of Escondido typically applies the noise criterion of 60 dBA CNEL within the backyards of residential parcels. The City of Escondido also requires that the interior noise level not exceed 45 dBA CNEL for new residences (Appendix I). Applicable noise policies are outlined below:

5. Noise

Goal 5: Protection of the community from excessive noise exposure.

Noise Policy 5.1: Require development to meet acceptable exterior noise level standards as established in Figure VI-2 [of the General Plan], and use the future noise contour map (Figure VI-17 [of the General Plan]) as a guide for evaluating the compatibility of new noise sensitive uses with projected noise levels.

Noise Policy 5.2: Apply a CNEL of 60 dB or less for single family and 65 dB or less for multi-family as goals where outdoor use is a major consideration (back yards and single family housing developments, and recreation areas in multifamily housing developments) as discussed in Figure VI-13 [of the General Plan], and recognize that such levels may not necessarily be achievable in all residential areas.

Noise Policy 5.3: Require noise attenuation for outdoor spaces in all developments where projected incremental exterior noise levels exceed those shown in Figure VI-14 [of the General Plan].

Noise Policy 5.4: Require noise attenuation for new noise-sensitive uses which include residential, daycare facilities, schools, churches, transient lodging, hotels, motels, hospitals, health care facilities, and libraries if the projected interior noise standard of 45 dBA CNEL is exceeded.

¹ The City classifies a “normally acceptable” noise exposure as follows: “Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special requirements.”

² The City classifies a “conditionally acceptable” noise exposure as follows: “New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will usually suffice.”

Noise Policy 5.5: Require construction projects and new development to ensure acceptable vibration levels at nearby noise-sensitive uses based on Federal Transit Administrator criteria.

Noise Policy 5.6: Require the preparation of noise studies, as deemed necessary by the Planning Department, to analyze potential noise impacts associated with new development which could significantly alter existing noise levels in accordance with provisions outlined in Figure VI-14 [of the General Plan].

Noise Policy 5.7: Encourage use of site and building design, noise barriers, and construction methods as outlined in Figure VI-15 [of the General Plan] to minimize impacts on and from new development.

Noise Policy 5.8: Require that mixed use and multi-family residential developments demonstrate that the design of the structure will adequately isolate noise between adjacent uses (orientation, window insulation, separation of common walls, floors, and ceilings, etc.).

Noise Policy 5.9: Require new mixed use developments to locate loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development, when physically feasible. Use construction standards to reduce noise between uses.

Noise Policy 5.10: Require development projects that are subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.

Noise Policy 5.11: Limit direct access from individual properties along Major Roads and Prime Arterials in residential areas in order to minimize gaps in noise barrier sound walls.

Noise Policy 5.12: Limit “through truck traffic” to designated routes to minimize noise impacts to residential neighborhoods and other noise-sensitive uses.

Noise Policy 5.13: Limit the hours of operation for parks and active recreation uses in residential areas to minimize disturbance to residents.

County of San Diego General Plan

The County’s General Plan Noise Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The Noise Element characterizes the noise environment in the County and provides the context for the County’s noise/land use compatibility guidelines and standards. The Noise Element also describes the County’s goals for achieving the standards and introduces policies designed to implement the goals. Under implementation of the General Plan, the County would use the Noise Compatibility Guidelines to determine the compatibility of land uses when evaluating proposed development projects. The Noise Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments.

3.11 Noise

A land use located in an area identified as “acceptable” indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. Land uses that fall into the “conditionally acceptable” noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source has the potential to interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as “conditionally acceptable,” structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Compatibility Guidelines. For land uses where the exterior noise levels fall within the “unacceptable” range, new construction generally should not be undertaken (County of San Diego 2009a).

County General Plan

The County’s General Plan Update was adopted by the County on August 3, 2011. Revisions to the General Plan Noise Element have not been updated in the County’s Noise Guidelines at this time; however, the General Plan noise compatibility guidelines and standards as contained in the General Plan are applicable to the proposed project. Table 3.11-9 provides the County’s current noise compatibility guidelines, and Table 3.11-10 provides the County’s noise standards.

**Table 3.11-9
County Noise Compatibility Guidelines**

Land Use Category		Exterior Noise Levels					
		55	60	65	70	75	80
A	Residential—single-family residences, mobile homes, senior housing, convalescent homes						
B	Residential—multifamily residences, mixed-use (commercial/residential)						
C	Transient lodging—motels, hotels, resorts						
D*	Schools, churches, hospitals, nursing homes, childcare facilities						
E*	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F*	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G*	Office/professional, government, medical/dental, commercial, retail, laboratories						
H*	Industrial, manufacturing, utilities, agriculture, mining, stables, warehouse, maintenance/repair						
	ACCEPTABLE—Specified land use is satisfactory based on the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.						

Table 3.11-9
County Noise Compatibility Guidelines

Land Use Category	Exterior Noise Levels					
	55	60	65	70	75	80
CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 7, Noise Standards. If a project cannot mitigate noise to a level deemed acceptable, the appropriate County decision maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.						
UNACCEPTABLE—New construction or development shall not be undertaken.						

Source: Appendix I,

* Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL.

Table 3.11-10
County Noise Standards

1. The exterior noise level (as defined in Item 3) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2. The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3. The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA L_{eq} (one hour average).
4. For single-family detached dwelling units, “exterior noise level” is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: <ul style="list-style-type: none"> for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet; for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10% of the lot area; for lots over 10 acres in area, the exterior area shall include 1 acre.
5. For all other residential land uses, “exterior noise level” is defined as noise measured at exterior areas which 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.
6. For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7. For noise sensitive land uses where people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
8. The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9. For Categories E and F the exterior noise level standard shall not exceed the limit defined as “Acceptable” in Table N-1 or an equivalent one-hour noise standard.

Source: Appendix I,

Exterior Noise Level compatibility guidelines for Land Use Categories A-H are identified in Table 3.11-7.

San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Sections 36.401–36.435, Noise Ordinance

The County's Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise as well as provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Planned compliance with sound level limits and other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g., varying densities and intensities of residential, industrial, and commercial zones). Where two adjacent properties have different zones, the sound level limit at a location on a boundary between two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries. It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced.

Section 36.404 of the Noise Ordinance contains sound level limits specific to receiving land uses. Sound level limits are in terms of a 1-hour average sound level. The allowable noise limits depend upon the County's zoning district and time of day. The proposed project would be located within Specific Plan Area and Open Space zones. Table 3.11-11 lists the sound level limits for the County.

Table 3.11-11
San Diego County Noise Ordinance Sound Level Limits

Zone	Applicable Limit 1-Hour Average Sound Level (dB)		
	7 a.m. to 7 p.m.	7 p.m. to 10 p.m.	10 p.m. to 7 a.m.
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S87, S90, S92, RV, and RU with a density of less than 11 dwelling units per acre	50	50	45
(2) RRO, RC, RM, S86, V5, and RV and RU with a density of 11 or more dwelling units per acre	55	55	50
(3) S94, V4, and all other commercial zones	60	60	55
(4) V1 and V2	60	55	see below
V1	60	55	55
V2	60	55	50
V3	70	70	65
(5) M50, M52, and M54	70	70	70
(6) S82, M56, and M58	75	75	75
(7) S88	(See note 4)		

Source: Appendix I.

Notes: RS, RD, RM, RR, RU, RV, RRO, RMH, RU = Residential uses; A70, A72 = Agricultural uses; S80, S81, S82, S87, S90 = Open space uses, ecological resource areas, or holding area uses; S92 = General rural uses; RC = Residential/commercial uses; S86 = parking uses; V1, V2, V3, V4, V5 = Village uses; M50, M52, M54, M56, M58 = Manufacturing and industrial uses; S88 = Special planning area uses.

- ¹ If the measured ambient level exceeds the applicable limit noted in the table, the allowable 1-hour average sound level will be the ambient noise level. The ambient noise level will be measured when the alleged noise violation source is not operating.
- ² The sound-level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts; provided, however, that the 1-hour average sound-level limit applicable to extractive industries, including but not limited to borrow pits and mines, will be 75 dB at the property line, regardless of the zone where the extractive industry is actually located.
- ³ Fixed-location, public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise-level limits of this section, measured at or beyond 6 feet from the boundary of the easement upon which the equipment is located.
- ⁴ S88 zones are Specific Planning Areas, which allow different uses. The sound level limits that apply in an S88 zone depend on the use being made of the property. The limits in the table, subsection (1) apply to a property with a residential, agricultural, or civic use. The limits in subsection (3) apply to a property with a commercial use. The limits in subsection (5) apply to a property with an industrial use that would only be allowed in an M50, M52, or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

Section 36.408 of the Noise Ordinance sets limits on the time of day and days of the week that construction can occur, as well as setting noise limits for construction activities. In summary, the Noise Ordinance prohibits operating construction equipment on the following days and times:

- Mondays through Saturdays except between 7 a.m. and 7 p.m.
- Sundays or a holiday. A holiday means January 1, the last Monday in May, July 4, the first Monday in September, December 25, and any day appointed by the president as a special national holiday or the governor of the state as a special state holiday.

In addition, Section 36.409 requires that between 7 a.m. and 7 p.m., no equipment shall be operated so as to cause an 8-hour average construction noise level in excess of 75 dBA when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received.

Additional sound level limitations are provided in Section 36.410:

In addition to the general limitations on sound levels in Section 36.404 and the limitations on construction equipment in Section 36.409, the following additional sound level limitations shall apply:

- (a) Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 9, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25% of the minutes in the measurement period, as described in Section 36.410(c) of the County's Noise Ordinance. The maximum sound level depends on the use being made of the occupied property. The uses in Table 3.11-12 are as described in the County Zoning Ordinance.

Table 3.11-12
County of San Diego Noise Ordinance, Section 36.410, Maximum Sound Level (Impulsive)
Measured at Occupied Property in Decibels

Occupied Property Use	dBA (L_{max})
Residential, village zoning, or civic use	82
Agricultural, commercial, or industrial use	85

Source: Appendix I.

- (b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 10, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25% of the minutes in the measurement period, as described in Section 36.410 (c) of the County's Noise Ordinance. The maximum sound level depends on the use being made of the occupied property. The uses in Table 3.11-13 are as described in the County Zoning Ordinance.

Table 3.11-13
County of San Diego Noise Ordinance, Section 36.410, Maximum Sound Level (Impulsive)
Measured at Occupied Property in Decibels for Public Road Projects

Occupied Property Use	dBA
Residential, village zoning, or civic use	85
Agricultural, commercial, or industrial use	90

Source: Appendix I.

- (c) The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise, exceeds the maximum sound level for any portion of any minute it will be deemed that the maximum sound level was exceeded during that minute.

The proposed project would result in a significant impact if it results in a substantial permanent increase in ambient noise levels in the vicinity. A substantial noise increase is defined as an increase of 10 dBA CNEL above existing conditions, as stated in the County of San Diego Noise Report Guidelines, Section 4.1-A (ii) (County of San Diego 2009b). Additionally, a significant noise impact would also occur if project-generated trip additions to the area roadway network were to cause a 3 dBA CNEL or greater increase over ambient traffic noise levels. A 3 dBA change is appropriate as it is the smallest increment that is perceivable by most people, representing a doubling of sound energy.

As discussed in the County of San Diego Noise Report Guidelines (County of San Diego 2009b), cumulative noise impacts may occur in discretionary applications where other permitted or planned projects will combine to exceed the standards of the Noise Element. It is more likely to occur in locations where existing noise levels are elevated or approach the applicable criterion of 60 decibels CNEL for an exterior noise sensitive land use (NSLU). Two examples of cumulative effects are (1) major residential developments in a region generate sufficient project-related traffic to affect significantly existing or planned NSLU and (2) extractive industries or long-term construction activities from several projects are in close proximity to existing or planned NSLU with future conditions exceeding 60 decibels CNEL. With an identified significant cumulative impact (doubling the existing noise conditions), the analysis also needs to determine whether the project's contribution is "cumulatively considerable" before addressing the issue of feasible mitigation measures.

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 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:** Be 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, and if so, the project would expose people residing or working in the project area to excessive noise levels.

County Guidelines for the Determination of Significance

The County of San Diego is located to the southwest of the project site, and a single-family residence within the County is located adjacent to the project site. Thus, for the purpose of this EIR, the County's Guidelines for Determining Significance: Noise applies to the noise impact analysis (County of San Diego 2009a) with respect to this pre-existing residential receptor. The following is from the County's Guidelines for assessing operational noise from the proposed project.

A proposed project would result in a significant impact if within the County's jurisdiction, its implementation would result in the exposure of any on-site or off-site existing or reasonably foreseeable future NSLUs to exterior or interior noise (including noise generated from a project combined with noise from roads, railroads, airports, heliports, and all other noise sources) greater than any of the following:

A. Exterior Locations

- i. 60 dB (CNEL)
- ii. An increase of 10 dB (CNEL) over preexisting noise

In the case of single-family residential detached NSLUs, exterior noise shall be 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 area:

- i. Net lot area up to 4,000 square feet: 400 square feet
- ii. Net lot area 4,000 square feet to 10 acres: 10% of net lot area
- iii. Net lot area over 10 acres: 1 acre

For all projects, exterior noise shall be measured at all exterior areas provided for group or private usable open space.

B. Interior Locations

45 dB (CNEL) except for the following cases:

- i. Rooms that are usually occupied only part of the day (i.e., schools, libraries, or similar facilities) in which the interior 1-hour average sound level due to noise outside should not exceed 50 dBA
- ii. Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cubic feet

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?

Construction Noise

This section addresses the construction noise impacts associated with the project to determine if they would result in the exposure of persons to or generation of noise level in excess of applicable noise standards.

Residential land uses are located directly adjacent to the western and northern project boundary. The structures to the north are approximately 20 feet from where grading efforts would be necessary. Residences exist approximately 50 feet from the western edge of the construction area. An existing residentially-zoned property on lands with County of San Diego jurisdiction adjoins the proposed project to the southwest. Typical distances between the geographic center of the construction site (i.e., the large parcel) and these nearby residential uses are over 360 feet. Commercial and light industrial land uses also exist in the project vicinity, however, such uses are not typically considered noise sensitive land uses.

Construction noise and vibration are temporary. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, operations being performed, and distance between the source and receptor. The proposed project's construction activities would generate noise from traffic, construction equipment usage, rock crushing activities, and controlled blasting, as discussed below. With respect to construction noise, the City, City of Escondido, and County lands would be potentially affected by noise generated; however, the nearest noise-sensitive receivers potentially affected by the project would be the residential land uses located to the north of the project site, located in the City of San Marcos, as well as the single-family residence located within the County's jurisdiction, located to the southwest of the project site. As such, predicted construction noise is compared to the 75 dBA 8-hour L_{eq} construction noise level threshold, which is the County standard and has been used by the City of San Marcos.

Note that the City's noise ordinance provides an exemption for construction work provided the activities do not take place between 6:00 p.m. and 7:00 a.m. Monday through Friday and on Saturdays from 5:00 p.m. to 8:00 a.m. Construction of the project would comply with applicable noise ordinance requirements regarding hours of work. For the occupied residential land use adjoining the southwest corner of the proposed project site, however, which is located within County of San Diego jurisdiction, construction noise is allowed between 7:00 a.m. and 7:00 p.m. but must comply with a 75 dBA 8-hour L_{eq} threshold.

Construction Equipment

Construction equipment operates in alternating cycles of full power and low power, thus typically producing noise levels less than the specified maximum level. The typical noise levels for various pieces of construction equipment at a reference distance of 50 feet are presented in Table 3.11-14.

Table 3.11-14
Typical Construction Equipment Noise Emission Levels and Usage Factors

Equipment Description	Impact Device?	FHWA RCNM Acoustical Use Factor (%)	Lmax @ 50ft (dBA)
All Other Equipment > 5 HP	No	50	85
Backhoe	No	40	78
Blasting	Yes	n/a	94
Compressor (air)	No	40	78
Dozer	No	40	82
Drill Rig Truck	No	40	79
Excavator	No	40	81
Flat Bed Truck	No	40	74
Front End Loader	No	40	79
Man Lift	No	20	75
Paver	No	50	80
Roller	No	20	80

Sources: DOT 2006; FHWA 2008.

Estimated noise levels from construction equipment were calculated using methodology that relies on reference data from the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (DOT 2006; see Appendix I). Construction phasing information (types and number of construction equipment by construction phase) are provided in Appendix I. The results of the construction noise modeling are presented in Table 3.11-15 below.

Table 3.11-15
Construction Noise Modeling Summary Results

Construction Phase	Predicted 8-hour L_{eq} (dBA) at Indicated Distance from Noise Source			
	Nearest Noise-Sensitive Receiver (50')	Exceedance of 75 dBA L_{eq} noise standard ?	Nearest Noise-Sensitive Receiver 300'360' from Geographic Center of Project Site	Exceedance of 75 dBA L_{eq} noise standard ?
Architectural Coating	68	No	57	No
Building Construction	69	No	68	No
Grading	79	Yes	68	No
Paving	77	Yes	69	No
Site Preparation	75	No	67	No

Source: Appendix I.

As shown, the highest noise levels are predicted to occur during grading operations, when noise levels from construction activities would be as high as 79 dBA equivalent continuous sound level (L_{eq}) at the noise-sensitive receptor to the southwest of the proposed project and would thus exceed the County of San Diego construction noise standard of 75 dBA 8-hour L_{eq} . During other phases of construction work, noise levels would range from approximately 57 to 75 dBA 8-hour L_{eq} .

Construction Traffic

Based on the project's grading plans, approximately 78,800 cubic yards of cut and fill would be balanced on-site; however, for the purposes of analysis, it was conservatively assumed that 10,000 cubic yards of soil would be exported off-site in trucks with a capacity of 16 cubic yards, thus, 625 trips were assumed. Additionally, based on the project's grading plans, it was estimated that 1,000 cubic yards of vegetation and soil from site clearing would be exported in trucks with a capacity of 8 cubic yards; therefore, 125 trips were assumed (Appendix I).

According to the traffic data in the project site vicinity provided in Appendix I, most roads have daily traffic trips exceeding 10,000 trips. The two exceptions are East Barham Drive from Meyers Avenue to Mission Road, and Meyers Avenue. These two roads have existing traffic trips of 4,740 (for Meyers Avenue) and 8,610 trips for that segment of East Barham Drive. If the total construction trips (750 haul trucks) were all added to these roads on a single day, the increase in traffic would be less than 50%. Typically a doubling in traffic trips (a 100% increase) is necessary to increase traffic noise levels by 3 dB which is the smallest increment that is perceivable by most people, and represents a doubling of sound energy. The construction haul trips are expected to be spread out over multiple days reducing the percentage increase in traffic on a daily basis (Appendix I). Resulting roadway traffic noise increase would be less than 3 dB over existing traffic noise levels. With less than a 3 dB in existing traffic noise expected from the construction efforts and would not exceed applicable noise standards, this impact is expected to be less than significant.

Construction Blasting Noise

According to the FHWA RCNM, and as listed in Table 3.11-14, blasting is expected to cause a reference noise level of 94 dBA at a distance of 50 feet. Due to the impulsive nature of this sound, Section 36.410 of the County of San Diego's noise ordinance would provide a threshold of 82 dBA L_{max} , as shown in Table 3.11-12, at the nearest residential receptor to the southwest of the project. With blasting activity of this magnitude assumed to occur no closer than 150 feet from existing residences in order to fracture on-site rock, and using the 94 dBA L_{max} reference value, the predicted impulse noise level at the receiver would be approximately 84 dBA L_{max} (as discussed previously sound level normally decreases by about 6 dBA for each doubling of distance from the source), and thus slightly higher than the allowable limit. For this reason, application of mitigation measure MM-NOI-1 would be expected in order to reduce blast noise by at least 2 dB, to meet the 82 dBA L_{max} threshold (a feasible quantity of airborne noise reduction in this context) and thus render on-site blasting noise a less than significant impact.

Impact NOI-1 Blasting activities related to on-site construction would generate short-term noise levels greater than 82 dBA L_{max} at existing residences adjacent to the project site.

Rock Crushing Activities

In addition to typical construction equipment noise, rock crushing activities would also occur as part of the proposed project and would contribute to the overall increase in temporary ambient noise levels during construction. Typically, most of the noise generated by controlled blasting is very low in frequency—below the frequency range audible to humans. Emissions factors for rock crushers were obtained from previous noise studies for the City of San Marcos. Approximately 30,000 tons of rock would be processed for construction of the proposed project; the rock processing rate would be 750 tons of rock per day; and the total operating days would be 40 days. It is expected that the rock-crushing equipment would be powered by a diesel-engine generator and that the engine generator would be rated at 350 horsepower. The engine generator would operate up to 4 hours per day. Table 3.11-16 presents results of rock crusher activities from measured data.

Table 3.11-16
Representative Rock Crusher Noise Levels

Type of Equipment	Distance From Source (Feet)	Measured Noise Level (dBA Leq)	Calculated Noise Level at 50 Feet (dBA Leq)
Portable Crusher and Conveyor	100	79	86.5
	330	70	90.5
	500	59	84.0
Permanent Heavy Rock Crusher	250	73	90.5
	500	56	84.0
Portable Crusher and Conveyor	160	73	85.6
	250	69	86.5
Portable Crusher and Conveyor	835	60	90.6
Large Portable Unit	20	94.2	84.3
Jaw Crusher	50	86.5	86.5
Concrete Crusher	120	77.3	86.8
	100	78	85.5

Source: Appendix I

The rock-crushing equipment was assumed to consist of a crusher, screen, and conveyor, and the crushed rock would be stockpiled for future use, based on the estimated construction methods and schedule provided by the project engineer (refer to Appendix C for a detailed construction breakdown). Although a single primary crusher and screen may be all that is required, use of a secondary crusher and additional screen would expedite this process. To generate a conservative emissions estimate, it was assumed that a feed hopper, primary and secondary crushers, two screens, and several conveyors for transfers would be used. The crushers, screens, and conveyors would have controlled particulate emissions with water sprays.

Although measurement distances between the rock crushers and sound level meters varied from study to study, the measurement results were normalized to a distance of 50 feet, assuming a “soft” surface along the transmission pathway. The mean and 95th percentile values for this data set were 87.4 and 88.9 dBA respectively. For the noise analysis described below the 88.9 dBA value (at 50 feet) was used.

The rock crushing facility was estimated to be approximately 560 feet from the nearest residential receptors west of the project site. The noise levels at the residential land uses from the rock crusher was estimated using the standard noise attenuation rate for a point source³ of 6 dB per doubling of distance. At a distance of 560 feet, the estimated noise exposure at the residential land uses would be approximately 68 dBA L_{eq} as shown in Table 3.11-17.

Table 3.11-17 provides the combined noise levels from the estimated rock crusher noise and the other construction equipment during the phases when the rock crusher may be used (grading, paving, and site preparation). As shown in Table 3.11-17, the combined noise levels (rock crusher plus grading, paving and site preparation, respectively) would range from approximately 71 to 72 dBA L_{eq} at the nearest residences. Although the rock crusher activity is estimated to cause an overall per-phase construction noise increase of 3 dB, the resulting level is still compliant with the 75 dBA L_{eq} threshold and thus expected to result in a less than significant impact.

Table 3.11-17
Combined Rock Crusher and Construction Phase Noise

Construction Phase	L_{eq} (dBA)		
	Construction Phase Noise ¹	Rock Crusher Noise	Combined Construction Phase plus Rock Crusher Noise Levels
Grading	68	68	71
Paving	69	68	72
Site Preparation	67	68	71

¹ The residences closest to the rock crushing activities would be located approximately 360 feet from construction phase activities.
Source: Appendix I

Average noise levels from construction equipment and rock crushing activities are expected to be higher than the ambient noise levels in the site vicinity. This is particularly true for the residential locations immediately adjacent to the project site. Although nearby off-site residences would be exposed to elevated construction noise levels, the exposure would be short-term and would cease upon project construction. Additionally, it is anticipated that construction activities associated with the project would occur during the City of San Marcos exempt hours for construction (SMMC 10.24). Nonetheless, at the residences immediately adjacent to the project boundary the estimated noise levels would exceed the construction noise limits in County of San Diego Noise Ordinance Section 36.409 of 75 dBA L_{eq} (8-hr)

³ As is the standard of the practice, singular pieces of construction equipment are idealized as “point sources”, as opposed to “line sources” such as a busy arterial roadways or freeways, or “pseudo line sources” such as rail lines.

which is commonly applied in San Marcos (refer to Section 3.11.3 above). Therefore, noise impacts from construction would be considered potentially significant absent mitigation. The implementation of mitigation measure MM-NOI-2 and MM-NOI-3, which requires various construction noise reduction measures, including ensuring that construction equipment be properly maintained and equipped with noise-reducing mufflers, and shrouds, locating equipment staging areas as far as feasible from occupied residences, minimizing equipment idling, the use of sound blankets on noise-generating equipment and the construction of temporary sound barriers as necessary, would reduce construction noise levels to below the established significance threshold. Thus, temporary construction-related impacts would be less than significant with mitigation incorporated.

Impact NOI-2 Construction activities would generate short-term noise levels greater than 75 dBA L_{eq} at existing residences adjacent to the project site.

Sewer Option #2 Construction

Proposed project construction would include installation of an option for the construction of a new sewer line under Barham Drive, shown in Figure 2-13e, in Chapter 2, Project Description. Construction of Sewer Option #2 would introduce noise and vibration-producing activities proximate to existing City of San Marcos residential receivers along the south side of this roadway segment between the SR-78 entrance ramp and the proposed entry to the proposed project east of Bennett Court. Because the location of this offsite improvement is different from the on-site construction area discussed in the preceding paragraphs, the following is an additional analysis of anticipated construction equipment noise and vibration with respect to the proposed Sewer Option #2 (Barham Drive) and its nearest residential receptors.

Conventional Construction Equipment Noise

For purposes of this analysis and based on construction methodology provided by the project engineer, it is assumed this sewer line construction would involve the following phases and equipment: 1) site preparation and exploratory bore sampling with a drill rig truck; 2) excavation with an excavator; 3) pipeline construction and installation with a flatbed truck and welder; and 4) pipeline cover and repaving of the street surface with a front-end loader, paver, and vibratory roller. Rock fracturing with controlled charge detonations may be required as part of excavation, but like the potential for blasting on the proposed project development site would be a special activity considered separately in a subsequent noise and vibration impact evaluation. Table 3.11-18 shows the predicted construction noise levels for each of these conventional construction activities at a distance of 30 feet, which is the perpendicular from the proposed sewer line and the common northern wall that the nearest residential receptors appear to share.

Due to the presence of the existing wall, which appears to be at least 8 feet tall with respect to the Barham Drive pavement, construction noise associated with the sewer line construction would be obstructed and therefore reduced by an estimated 8 dBA. This noise reduction from the wall lowers the expected noise exposure at the existing residences as shown in the right-most column of Table 3.11-18, and thus yields levels that are compliant with 75 dBA 8-hour L_{eq} .

Table 3.11-18
Sewer Line Option #2 – Construction Noise Modeling Summary Results

Construction Phase	Predicted 8-hour L_{eq} (dBA) at Indicated Distance from Noise Source	
	<i>Nearest Noise-Sensitive Receiver 30' (without wall)</i>	<i>Nearest Noise-Sensitive Receiver 30' (with wall)</i>
Site Preparation & Exploratory Bore Sampling	76	68
Excavation	81	73
Pipeline Construction	74	66
Cover and Re-paving	83	75

Based on these predictions summarized in Table 3.11-18, noise emission from conventional construction equipment associated with construction of the sewer line option #2 would be considered a less than significant noise impact.

Blasting Noise

According to the FHWA RCNM, and as listed in Table 3.11-14, blasting is expected to cause a reference noise level of 94 dBA at a distance of 50 feet. If blasting at this magnitude was conducted to fracture rock for facilitating construction of the sewer line (Option #2) during the excavation phase, the predicted noise exposure at the common wall (only 30 feet away) shared by the nearest residential receptors would be 98 dBA L_{max} . Adjusted downward by the aforementioned estimated barrier noise reduction effect of 8 dBA provided by the common wall, the resulting blast noise level would be 90 dBA L_{max} . Although these residential receptors along Barham Drive are within the City of San Marcos and thus would not be subject to the County of San Diego's Section 36.410 thresholds for impulsive noise, application of MM-NOI-1 would be recommended to reduce blast noise by at least 5 dB, to meet the 82 dBA L_{max} threshold (a feasible quantity of airborne noise reduction in this context) and thus render blasting noise from this roadway project to a less than significant impact.

Impact NOI-3 Blasting activities related to construction of Sewer Option #2 would generate short-term noise levels greater than 82 dBA L_{max} at existing residences adjacent to the project site.

Operational Noise

This section addresses the operational noise impacts associated with the project to determine if the proposed project would result in the exposure of persons to or generation of noise level in excess of applicable noise standards.

Operational Stationary Source Noise

The operational phase of the project would increase overall human presence on the project site as residential uses would be introduced to an area that is currently vacant. Generally, residences are not considered to be substantial sources of noise. Operational noise associated with the proposed project could occur from heating, ventilation, and air conditioning (HVAC) units, landscaping activities, parking areas, residential gatherings/parties, recreational/common open space areas, and/or nuisance noise. However, noise from such sources is intermittent and difficult to predict due to many variables. As discussed in Section 2.2.2.4 of the EIR, the project would include eight at-grade transformers. The proposed transformers would be located in accordance with SDG&E electrical standards for clearance, separation, and setbacks with respect noise to ensure that operational noise generated by the proposed transformers comply with the allowable noise limits defined SDG&E's Distribution Design Manual and the City's Noise Ordinance. Additionally, any activities considered a nuisance would be illegal under the City's Noise Ordinance, which would be enforced by the City's police department. Due to this, noise levels would not be expected to significantly and permanently increase.

Operational Traffic Noise

The project would convert currently undeveloped land into new residential uses and would generate a net traffic increase over existing volumes in the project vicinity. To determine the future noise environment and impact potential resulting from increased traffic associated with the operational phase of the project, CadnaA (Computer Aided Noise Abatement) software was utilized for calculation and prediction of traffic noise for vicinity roadways, using forecasted Average Daily Trip (ADT) data from the Transportation Impact Assessment (Appendix J). The Transportation Impact Assessment analyzed Existing, Near Term (opening year of the project with no roadway network improvements assumed), and Year 2035 traffic scenarios with and without the project. Year 2035 represents worst case traffic and potential noise levels, and is therefore, addressed below. Additionally, future conditions along SR-78 were analyzed based on the San Diego Association of Governments (SANDAG) Series 12 traffic model data to obtain 2035 traffic volumes (Appendix J). Noise modelling receivers were located both on-site and off-site to assess potential noise impacts on both representative residences proposed by the project and on existing representative receivers in the project vicinity, respectively. The locations of the modeled (M#) receivers are shown in Figure 3.11-2.

A substantial increase in ambient noise levels is defined as a greater than 3 dBA increase where ambient noise is between 60 and 65 dBA, and a greater than 1.5 dBA increase where ambient noise exceeds 65 dBA (see Table 3.11-3). Table 3.11-19 shows the results of the model runs for worst case residential receivers for off-site traffic noise impacts. The locations of the modeled (M#) receivers are shown on Figure 3.11-2.

Table 3.11-19
Traffic Noise Model Results at Off-site Representative Receivers

Receiver Location/Description	Traffic Noise Community Noise Level CNEL (dBA)		Increase in Traffic Noise Level Due to the Project (dB)	Significant Impact?
	Existing	Existing Plus Project		
M1: Lagos Marcos, Existing Residence	69	69	0	No
M2: Sierra Vista, Existing Residence	74	74	0	No
M7: Alta Vista, Existing Residence	60	60	0	No
M8: CI Vista, Existing Residence	72	72	0	No

Source: Appendix I

Modeling locations near SR-78 have higher noise levels than areas located further away. Some existing residential land uses have existing traffic noise levels as high as 74 dBA CNEL. Other residences along East Barham Drive have lower traffic noise levels as shown by M1. Location M7 represents the residential row adjacent to the north boundary of the project site near where the proposed multifamily residential buildings would be constructed. These single family residential receivers have existing traffic noise levels of 60 dBA CNEL. The project would increase noise levels by less than 1 dB at off-site locations. Thus, the project would not create a substantial increase in the ambient noise levels in the project vicinity. Additionally, all off-site receivers would not experience increases from one category (acceptable, conditionally acceptable, unacceptable) to another category, and thus noise levels would remain in their existing or expected land use compatibility category under the City's standards. Therefore, impacts would be less than significant.

Analysis of potential noise impacts to NSLUs created by the proposed project is not required under CEQA. Thus, the following is provided for informational purposes. Table 3.11-20 shows calculated traffic noise levels in CNEL for on-site areas. As shown in Figure 3.11-2, receivers M3, M4, M5, and M6 are located at the 4 northern-most building sites proposed for the project. As shown in Table 3.11-20, traffic noise levels for the proposed on-site residences would remain below 65 dBA CNEL. Since the proposed structures are multifamily dwellings, CNEL levels up to 65 dBA are "acceptable." No impact would occur, and no exterior noise mitigation is required for the project.

Table 3.11-20
Traffic Noise Model Results at Representative Proposed Residences

Receiver Location/Description	Traffic Noise CNEL (dBA)		Traffic Noise Increase (dB)	Significant Impact?
	2035	2035 PP		
M3: North East Building, Ground Floor, Proposed	55	55	0	No
M3: North East Building, Upper Floors, Proposed	60	60	0	No
M4: North East Building, Ground Floor, Proposed	56	56	0	No
M4: North East Building, Upper Floors Proposed	60	60	0	No
M5: North West Inner Building, Ground Floor, Proposed	56	56	0	No
M5: North West Inner Building, Upper Floors, Proposed	60	60	0	No
M6: North West Building, Ground Floor, Proposed	56	56	0	No
M6: North West Building, Upper Floors, Proposed	60	60	0	No

Source: Appendix I

The City requires that interior noise levels not exceed 45 dBA CNEL. Interior noise levels are controlled by the noise reduction characteristics of the building shell. The interior noise level is a function of the sound transmission loss qualities of the construction material and surface area of each element (wall, window, door, etc.). Typical wood frame construction with standard windows and doors generally provides a reduction of exterior-to-interior noise levels of 20 dBA or greater. Based on a noise reduction of 20 dBA provided by standard construction techniques, interior noise levels within the proposed project would range from approximately 35 to 41 dBA CNEL. Thus, interior noise levels would be lower than 45 dBA CNEL. Operational noise as a result of the proposed project is determined to be less than significant, and no mitigation measures are required.

Threshold #2: Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

This section analyzes the potential for the project to expose persons to or generation of excessive vibration or groundborne noise. Groundborne vibration and groundborne noise occurring as part of the proposed project would result from construction equipment, and specifically from the blasting and rock crushing activities. The noise modeling is based upon project construction details and schedule provided by the project applicant.

Proposed Project

Conventional Construction Equipment Vibration

Conventional construction equipment anticipated to be on site and producing noise as estimated in the preceding paragraphs would also be generating groundborne vibration that can, using FTA-based reference data and methodology, also be predicted and compared with applicable aforementioned FTA and Caltrans guidance criteria.

Aside from special construction activities such as blasting, which is considered in the analysis below, a vibratory roller would be expected to generate the greatest magnitude of vibration that FTA indicates exhibits 0.21 inches per second PPV at a distance of 25 feet. At a distance of 50 feet, representing how close a roller might be during paving activities, the vibration level at the receiver would be 0.07 inches per second PPV, which would be less than the 0.3 inches per second PPV threshold for continuous (i.e., not transient) sources of vibration per Caltrans guidance as shown in Table 3.11-5 for older residential structures. With respect to human annoyance, 0.07 inches per second would be less than 0.1 inches per second PPV per Caltrans guidance. On these bases, vibration impact from on-site conventional construction equipment and processes is expected to be less than significant.

Construction Blasting Vibration

Blasting for construction projects typically results in an RMS vibration velocity of about 100 VdB at 50 feet from the source (FRA 2005). This is equivalent to a peak particle velocity of about 0.4 inches per second. Typical background vibration level in a residential area is usually below 50 VdB, which is below the threshold for human perception (FTA 2018).

With blasting activity assumed to occur no closer than 150 feet from existing residences in order to fracture on-site rock, and applying distance-related attenuation per FTA guidance (FTA 2018), expected transient vibration from a blast would be 0.08 inches per second. This estimation assumes that the blast vibration source level is comparable to the above-stated value of 100 VdB at 50 feet (per Federal Railroad Administration guidance), and that the conversion of PPV to VdB involves a crest factor value of 4 as recommended by the FTA (FTA 2018).

Because the existing residences near the proposed project could conservatively be described as older residential structures, the Caltrans-recommended risk threshold for transient vibrations like blasting would be 0.5 inches per second PPV for such receiving structures as shown in Table 3.11-5. Therefore, the estimated vibration level of 0.08 inches per second PPV at the nearest residential receptors would be less and result in an anticipated less than significant impact under these conditions.

However, since groundborne vibration level from a blast is not only dependent on distance between the source and receptor, but on other factors such as charge weight, the delay between charge detonations associated with a “single” blast event, and the degree of charge confinement. Impacts would be potentially significant. Therefore, mitigation measure MM-NOI-4 would be implemented to help ensure blasting events associated with proposed project construction are properly designed and implemented, so that resulting transient vibration levels they generate do not exceed appropriate Caltrans guidance criteria.

Impact NOI-4 Blasting activities related to on-site construction would generate short-term groundborne vibration levels that could exceed Caltrans guidance criteria at existing residences adjacent to the project site.

Off-Site Improvement – Sewer Option #2***Conventional Construction Equipment Vibration***

Aside from special construction activities such as blasting, which is considered separately herein, a vibratory roller would be expected to generate the greatest magnitude of vibration that FTA indicates exhibits 0.21 inches per second PPV at a distance of 25 feet. At a distance of 45 feet, representing how close a roller might be during paving activities to the nearest residential structure (i.e., on the southern side of the common wall that is 30 feet from the construction activity), the vibration level at the receiver would be 0.09 inches per second PPV, which would be less than the 0.3 inches per second PPV threshold for continuous (i.e., not transient) sources of vibration per Caltrans guidance as shown in Table 3.11-5 for older residential structures. With respect to human annoyance, 0.09 inches per second would be less than 0.1 inches per second PPV per Caltrans guidance. On these bases, vibration impact from on-site conventional construction equipment and processes that would be needed to construct sewer line option #2 is expected to be less than significant.

Blasting Vibration

Blasting for construction projects typically results in an RMS vibration velocity of about 100 VdB at 50 feet from the source (FRA 2005). This is equivalent to a peak particle velocity of about 0.4 inches per second. With blasting activity at this reference magnitude assumed to occur no closer than 45 feet from existing residences in order to fracture on-site rock, and applying distance-related attenuation per FTA guidance (FTA 2018), expected transient vibration from a blast would be 0.46 inches per second PPV. This estimation assumes that the blast vibration source level is comparable to the above-stated value of 100 VdB at 50 feet (per Federal Railroad Administration guidance), and that the conversion of PPV to VdB involves a crest factor value of 4 as recommended by the FTA (FTA 2018).

Because the existing residences near the proposed project could conservatively be described as older residential structures, the Caltrans-recommended risk threshold for transient vibrations like blasting would be 0.5 inches per second PPV for such receiving structures as shown in Table 3.11-5. Therefore, the estimated vibration level of 0.46 inches per second PPV at the nearest residential receptors would be less and result in an anticipated less than significant impact under these conditions.

However, the estimated blasting-attributed groundborne vibration level would exceed the annoyance guidance criterion of 0.1 inches per second PPV. For this reason, and since blast groundborne vibration magnitude is not only dependent on distance between the source and receptor, but on other factors such as charge weight, the delay between charge detonations associated with a “single” blast event, and the degree of charge confinement, it is recommended that mitigation measure MM-NOI-4 be implemented to help ensure the blasts are properly designed and implemented, so that resulting transient vibration levels they generate do not exceed appropriate Caltrans guidance criteria.

Impact NOI-5 Blasting activities associated with excavation for the proposed Sewer Option #2 would generate short-term vibration levels that exceed applicable guidance criteria.

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?

The project site is not located within the vicinity of a private airstrip or airport. The public airport closest to the project site is the McClellan-Palomar Airport, located approximately 8 miles west and the closest private airstrip is located 8 miles northeast of the project site directly north of Lake Wohlford, as identified in the Mobility Element of the County of San Diego General Plan (County of San Diego 2011). According to the Airport Land Use Compatibility Plan (ALUCP) for the McClellan-Palomar Airport, the project site is not located within the existing or future 60 dB CNEL noise contour of the airport (San Diego County Regional Airport Authority 2011). Nevertheless, all residential development within Review Area 2 is required to record overflight notification documents as outlined in the McClellan-Palomar ALUCP, and per Chapter 20.265 of the City's Municipal Code, notifying residents of potential annoyances commonly associated with proximity to airports, such as noise, vibration, and overflights. Refer also to Section 3.10, Land Use and Planning, for additional discussion regarding the ALUCP. This would be required as a condition of project approval. As such, with recording of overflight notification, noise impacts from airport operations would be less than significant.

3.11.5 Cumulative Impact Analysis

The geographic context for cumulative analysis would be areas immediately surrounding the project site, because construction and operational noise primarily affects areas in the vicinity of the project site. Of the cumulative projects listed in Table 2-3, the Valiano Development is the only project located within approximately 0.25 miles the project site. All other cumulative projects are located over a mile from the project site and thus would be at a substantial distance such that noise would attenuate and cumulative impacts would not occur.

Valiano has been approved and the first phase of construction is anticipated to begin in 2019 and last approximately two years. The second and third phases would then last approximately one and 2.5 years, respectively. The proposed project would commence in March 2020 and would last approximately 21 months, ending in December 2021. Therefore, it is likely construction of the Valiano project would occur simultaneously with construction of the proposed project. Construction of Valiano would be located in proximity to different noise sensitive land uses than the proposed project. While the Valiano project site is located within approximately 0.25 miles, construction would not extend to the edge of Valiano's north/northeastern-most project boundary. Rather, development would be limited to a water reservoir, and construction activity would be substantially set back from the nearest Valiano project boundary relative to the proposed project site. Additionally, it is reasonable to assume

that Valiano project would include construction noise reduction measures to reduce any potentially significant noise impacts to a level below significance. Additionally, any construction traffic from export/import haul trucks would likely be distributed among different roadways compared to the proposed project. Therefore, noise from construction traffic is not expected to overlap. Therefore, given location of construction within the Valiano site and because different sensitive receptors would be potentially affected, the project would not contribute to a cumulative construction noise impact, and cumulative noise impacts would be less than significant during construction.

As discussed above, future traffic noise levels were analyzed comparing existing traffic with Near Term and Year 2035 projected traffic levels, with and without the project. This analysis accounts for reasonably foreseeable cumulative traffic levels in the vicinity of the project. As discussed previously, impacts would be less than significant.

3.11.6 Mitigation Measures

The following mitigation measures shall be implemented to reduce noise from construction activities.

MM-NOI-1 Prior to the issuance of permit or other approval to conduct blasting activity, the Applicant/Owner or Construction Contractor shall prepare and submit to the City of San Marcos Planning Division (City Planner) for its review and approval a Blasting Plan. The Blasting Plan shall be prepared or reviewed by a State-licensed blaster and feature the following:

- a. Blast design details, including but not limited to charge weight, stemming or confinement, detonator delay, and charge weight.
- b. Calculation of air over-pressure and corresponding A-weighted dB equivalent, so that anticipated blast noise can be compared with the reference FHWA RCNM level. If the blast noise estimate is greater than the reference level ($L_{max} = 94$ dBA at 50 feet), then the Blasting Plan will identify usage of blasting mats and other means to suppress and reduce airborne noise emission from the blast event so that resultant levels, accounting for distance propagation and any sound path occlusion (due to man-made features or terrain) at the nearest residential receptors are compatible with 82 dBA L_{max} .

Upon issuance of the permit or other approval to conduct blasting activity, proper implementation of the Blasting Plan will be the responsibility of the Applicant/Owner or Construction Contractor and include compliance with all relevant City of San Marcos regulations and standards, including but not limited to Section 17.60 of the Municipal Code.

MM-NOI-2

Prior to the issuance of a Construction Permit, the Applicant/Owner or Construction Contractor shall prepare and submit to the City of San Marcos Planning Division (City Planner) for its review and approval a Construction Noise Management Plan (CNMP). Prior to the issuance of a Construction Permit, Construction Plans shall also include a note indicating compliance with the CNMP is required. The CNMP shall be prepared or reviewed by a Qualified Acoustician (retained at the Applicant/Owner or Construction Contractor's expense) and feature the following:

- a. A detailed construction schedule, at daily (or weekly, if activities during each day of the week are typical) resolution and correlating to areas or zones of on-site project construction activity(ies) and the anticipated equipment types and quantities involved. Information will include expected hours of actual operation per day for each type of equipment per phase; and, indication of anticipated concurrent construction activities on-site.
- b. Suggested locations of a set of noise level monitors, attended by a Qualified Acoustician or another party under its supervision or direction, at which sample outdoor ambient noise levels will be measured and collected over a sufficient sample period and subsequently analyzed (i.e., compared with applicable time-dependent dBA thresholds) to ascertain compliance with the County of San Diego limit of 75 dBA L_{eq} over a consecutive 8-hour period within daytime hours (7:00 a.m. to 7:00 p.m.). Sampling shall be performed, at a minimum, on the first (or otherwise considered typical construction operations) day of a distinct construction phase (e.g., site preparation, grading, etc.).
- c. If sample collected noise level data indicates that the 8-hour noise threshold has or will be exceeded, construction work shall be suspended (for the activity or phase of concern) and the Applicant/Owner or Construction Contractor shall implement one or more of the following measures as detailed or specified in the CNMP:
 - i. Administrative controls (e.g., reduce operating time of equipment and/or prohibit usage of equipment type[s] within certain distances).
 - ii. Engineering controls (upgrade noise controls, such as install better engine exhaust mufflers).
 - iii. Install noise abatement on the site boundary fencing (or within, as practical and appropriate) in the form of sound blankets or comparable temporary barriers to occlude construction noise emission between the site (or specific equipment operation as the situation may define) and the noise-sensitive receptor(s) of concern.

The implemented measure(s) will be reviewed or otherwise inspected and approved by the Qualified Acoustician (or another party under its supervision or direction) prior to resumption of the construction activity or process that caused the measured noise concern or need for noise mitigation. Noise levels shall be re-measured, after installation of said measures, to ascertain post-mitigation compliance with the noise threshold. As needed, this process shall be repeated and refined until noise level compliance is demonstrated and documented. A report of this implemented mitigation and its documented success will be provided to the City Planner.

- d. The Applicant/Owner or Construction Contractor shall make available a telephone hot-line so that concerned neighbors in the community may call to report noise complaints. The CNMP shall include a process to investigate these complaints and, if determined to be valid, detail efforts to provide a timely resolution and response to the complainant—with copy of resolution provided to the City Planner.

MM-NOI-3 The construction contractor shall implement, to the extent practical, the following site measures:

- a. All construction equipment shall be properly maintained and equipped with noise-reducing intake, exhaust mufflers, and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
- b. Electrical power shall be used to run air compressors and similar power tools when local electrical power is available for such devices.
- c. Equipment staging areas should be located as far as feasible from occupied residences, and idling of equipment shall be minimized.

MM-NOI-4 Prior to the issuance of permit or other approval to conduct blasting activity, the Applicant/Owner or Construction Contractor shall prepare and submit to the City of San Marcos Planning Division (City Planner) for its review and approval a Blasting Plan. The Blasting Plan shall be prepared or reviewed by a State-licensed blaster and feature the following:

- a. Blast design details, including but not limited to charge weight, stemming or confinement, detonator delay, and charge weight.
- b. Calculation of peak particle velocity (PPV) vibration, so that anticipated blast vibration can be compared with the reference FRA level of 0.4 inches per second PPV at 50 feet. If the blast vibration estimate is greater than this reference level, then the Blasting Plan will identify usage of trenches, wave barriers, or other means to reduce groundborne vibration from the blast event so that resultant levels—

accounting for distance propagation associated with the soil/strata type(s) through which the vibration travels—at the nearest residential receptors are compatible with 0.5 inches per second PPV per Caltrans guidance.

Upon issuance of the permit or other approval to conduct blasting activity, proper implementation of the Blasting Plan will be the responsibility of the Applicant/Owner or Construction Contractor and include compliance with all relevant City of San Marcos regulations and standards, including but not limited to Section 17.60 of the Municipal Code.

3.11.7 Conclusion

Implementation of the proposed project would increase ambient noise levels in the project vicinity both temporarily and permanently. Regarding operational noise impacts, no exterior noise mitigation is required to address traffic noise because all exterior traffic noise impacts both on-site and off-site would be less than significant. For construction noise impacts as a result of the proposed project, implementation of mitigation measures MM-NOI-1 through MM-NOI-4 would help ensure that construction-related noise and vibration levels would comply with appropriate City of San Marcos and San Diego County noise standards, as well as appropriate federal and State guidance discussed herein.

Effectiveness of the proposed mitigation would vary from several decibels (which in general is a relatively small change) to ten or more decibels (which subjectively would be perceived as a substantial change), depending upon the specific equipment and the original condition of that equipment, the specific locations of the noise sources and the receivers, etc. Installation of a noise barrier, for example, would vary in effectiveness depending upon the degree to which the line-of-sight between the source and receiver is broken, and typically ranges from 5 to 10 dB. Installation of more effective silencers could range from several decibels to well over 10 decibels. Reduction of idling equipment could reduce overall noise levels from barely any reduction to several decibels. Cumulatively, however, these measures would result in substantial decreases in the noise from construction. It has been determined that with implementation of these measures, construction noise impacts would be less than significant.



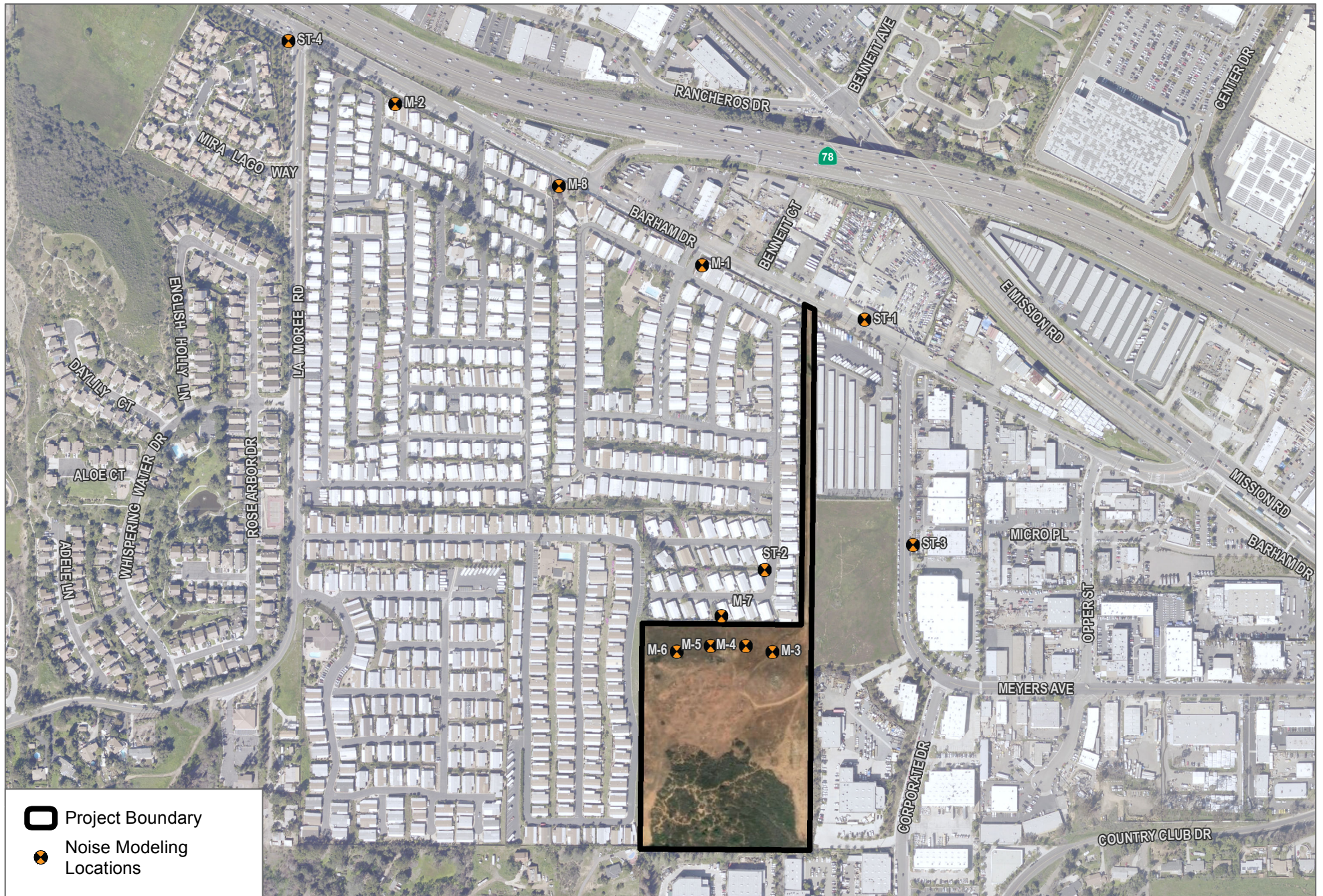
SOURCE: USDA 2016

FIGURE 3.11-1

Noise Measurement Locations

Sunrise Specific Plan Environmental Impact Report

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SOURCE: USDA 2016

FIGURE 3.11-2

Noise Modeling Locations

Sunrise Specific Plan Environmental Impact Report

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3.12 POPULATION AND HOUSING

This section describes the existing setting of the project site, identifies associated regulatory requirements, and evaluates potential impacts related to population and housing resulting from development of the Sunrise Specific Plan (proposed 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 based upon demographic information from the San Diego Association of Governments (SANDAG).

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. The City doubled its population both in the 1980s and again between 1990 and 2010. For perspective, the San Diego Region grew by 34% during the period from 1980 to 1990 and the City of San Marcos grew by 123% during this same timeframe. Further, from 2000 to 2010, regional growth was 10% while City growth was 52% (City of San Marcos 2013). As of January 1, 2018, the California Department of Finance (DOF) estimates the population of the City is 95,768 (DOF 2018). Based on growth projections provided by the Series 13: 2050 Regional Growth Forecast prepared by SANDAG, it is estimated that the City's population growth will reach 108,470 persons by 2035, and 112,323 persons by 2050 (SANDAG 2013).

Housing

As of January 1, 2018, the City of San Marcos had 31,366 housing units. The housing stock is comprised of approximately 58.5 percent single-family detached and attached units, and approximately 31 percent multi-family units. Approximately 10.5 percent of the housing stock as of January 2018 consisted of mobile homes (DOF 2018). Based on the Series 13: 2050 Regional Growth Forecast, the City is expected to have 37,118 housing units by 2050 (SANDAG 2013).

Currently, the project site is undeveloped with no existing housing on-site.

3.12.2 Regulatory Setting

This section describes the local regulatory setting as it relates to population and housing for the proposed 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 (GHG) 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 GHG 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

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.

Regional

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). 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

3.12 Population and Housing

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 a Sustainable Communities Strategy (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 is required by law to update its regional transportation plan every 4 years. In October 2015, SANDAG adopted the most recent update to its RTP/SCS. SANDAG's 2015 RTP/SCS, known as *San Diego Forward: The Regional Plan* (Regional Plan), integrates the elements of the prior Regional Comprehensive Plan and combines those elements with the Regional Plan.

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 and other factors from the cities in the region and the County. SANDAG's Regional Plan will change in response to the ongoing land use planning of the City and other jurisdictions. For example, the City's General Plan, and other local General Plans of cities, may change based on General Plan amendments initiated by the jurisdiction or landowner applicants. The General Plan amendments may result in increases in development densities by amending the regional category designations or zoning classifications. Accordingly, SANDAG's RTP/SCS latest forecasts of future development in the San Diego region, including location, must be coordinated closely with each jurisdiction's ongoing land use planning because that planning is not static, as recognized by the need for updates to SANDAG's RTP/SCS every 4 years.

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. On October 13, 2013, SANDAG accepted the Series 13: 2050 Regional Growth Forecast. 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 below. 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. It should also be noted that 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 utilized 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 2010-2050	
	2010	2020	2035	2050	Numeric	Percent
<i>Population</i>						
San Diego Regional	3,095,313	3,435,713	3,853,698	4,068,759	973,446	31.4%
City of San Marcos	83,781	98,940	108,470	112,323	28,542	34.1%
<i>Housing</i>						
San Diego Regional	1,158,076	1,249,654	1,394,688	1,491,804	333,728	28.8%
City of San Marcos	28,174	32,622	35,596	37,118	8,944	31.7%
<i>Employment</i>						
San Diego Regional	1,421,941	1,624,124	1,769,938	1,911,405	489,464	34.4%
City of San Marcos	36,857	45,793	55,207	64,282	27,425	74.4%

Source: SANDAG 2013

Regional Housing Needs Assessment

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 Regional Housing Needs Assessment figures, SANDAG allocated 4,183 housing units to the San Marcos area for the 2010–2020 Housing Element Cycle (January 1, 2010 through December 31, 2020), including 1,043 housing units for very low- and low-income households (SANDAG 2011).

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 2013-2021 planning period. The following goals and policies from the Housing Element of the City of San Marcos General Plan pertain to population and housing:

- **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.

3.12 Population and Housing

- **Goal H-2:** Protect, encourage, and provide housing opportunities for persons of lower and moderate incomes.
- **Goal H-4:** Reduce or remove governmental 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 proposed 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 goals and policies pertaining to population and housing.

At the time of adoption of the City's Housing Element, the City had already achieved approximately one-third of its RHNA (or approximately 1,731 units) with housing units construction, under construction, or approved, fulfilling its allocation of moderate income units. Based on a sites inventory assessment, the City has the ability to adequately accommodate the remaining RHNA requirements within land that currently permits residential development (comprised of proposed applications, vacant residential sites, and vacant land in Specific Plan Areas). The project site is not identified within the City's Housing Element as a site that could contribute to the RHNA allocation (City of San Marcos 2013). It should be noted that the City's Housing Element covers the planning period of April 30, 2013, through April 30, 2021, which differs from the RHNA planning period identified above.

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 CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to geology and soils 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)?

The approximately 14.4-acre project site is currently within portions of two jurisdictions: the City of San Marcos and the County of San Diego. However, the entirety of the project resides within the City's General Plan Sphere of Influence. A General Plan Amendment is required to re-designate the southern parcel of the project site from Semi-Rural Residential (SR-1) (as currently designated by the County of San Diego) and Light Industrial (LI) (as designated by the City, as the parcel is within its Sphere of Influence) to Specific Plan Area (SPA). Additionally, a General Plan Amendment is required to re-designate the northern parcel of the project site from Low Density Residential (LDR) to SPA.

Furthermore, a rezone is required to re-designate the southern parcel of the project site from Single Family Residential (RS) (as currently designated by the County of San Diego) to Specific Plan Area (SPA). Additionally, a rezone is required to re-designate the northern parcel of the project site Mobile Home Park (R-MHP) to Specific Plan Area (SPA). The General Plan Amendment and Rezone would allow the Specific Plan to provide rules and regulations for development of the project site.

The proposed project would directly induce growth through the development of approximately 192 multi-family residential dwelling units, resulting in a gross density of approximately 13.3 dwelling units per acre. Based on the population rate coefficient of 3.14 persons per dwelling unit, as established by the California Department of Finance, the proposed project would directly induce population growth to the area and would potentially add an estimated 603 people to the area (DOF 2018). The proposed project would not, however, indirectly induce a growth in population as no extension of infrastructure is proposed beyond what is required to adequately serve the proposed project. Additionally, the majority of the surrounding area is developed. The SANDAG population growth forecasts rely, in part, on individual jurisdiction's planning documents, such as the City's General Plan. Because the project proposes a General Plan Amendment and Rezone, the estimated population of 603 people would not have been accounted for in SANDAG's projections. Therefore, the project's induced population would exceed these projections. However, determination of impacts related to population growth hinge upon whether the induced growth would be considered substantial.

Currently, the 3.6-acre northern parcel of the project site is designated as Low Density Residential by the City of San Marcos, which allows for 4.1 to 8 residential units per acre. Thus, a maximum of 28 units would be allowed on this parcel under current land use designations. Further, the 10.8-acre southern parcel of the project site is designated as Semi-Rural Residential (SR-1) by the County of San Diego, which allows for a maximum development of one residential unit per acre. This same parcel is also designated as Light Industrial by the City of San Marcos, as it is within the City's General Plan

3.12 Population and Housing

Sphere of Influence. This parcel would allow for the development of 10 residential units under the County's current Semi-Rural Residential designation and no residential units under the City's current Light Industrial designation. Therefore, the maximum number of residential units that would be allowed within the project site under current land use designations would be 38 units. Utilizing the 3.14 population coefficient identified above, the 38 dwelling units would induce an estimated population of 119 people. As such, the proposed project would result in an estimated increase of 484 people beyond the current allowable residential land uses within the project site.

It should also be noted, that development of the southern parcel of the project site under the City's current land use designation of Light Industrial would also contribute to growth introducing new jobs to the area. It is not known how many of the jobs would employ residents that currently live in the region versus how many would relocate to the area. While employment density factors and estimates are provided by SANDAG, because the southern parcel is within the County's jurisdiction, the Light Industrial designation has not been considered in the estimate of growth under existing designations.

As shown in Table 3.12-1 above, the City's population is projected to grow from 83,781 people in 2010 to 108,470 people by 2035 (an increase of 24,689 people). The population increase resulting from the proposed project relative to existing land use designations of 484 people would account for 0.02% of SANDAG's projected population growth, assuming that the proposed project is built out by 2035.

There is no hardline number or percentage available to determine whether or not this estimated introduction of 484 people (or 0.02% of projected growth) would be considered a substantial increase in population. However, SANDAG's 2050 Regional Growth Forecast is intended to be used as a starting point for regional planning as opposed to a prescribed growth pattern. Although the City determined that there are adequate sites available with appropriate designations/zoning to accommodate the remaining RHNA allocation for the current Housing Element planning period, the City has the discretion to adjust allocated housing units/sites as necessary to balance proposed plans for residential development with approved/constructed residential development. Additionally, the estimated buildout of the proposed project would carry over into the next RHNA and City's Housing Element planning period, in which both SANDAG and the City would be again required to assess the housing needs allocation and the ability for the City to meet its fair-share housing requirement. Therefore, while the proposed project would directly induce growth beyond current estimates and forecasts, it would not be considered substantially growth inducing, and impacts would be less than significant.

Thresholds #2: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There is no existing housing on the project site. Since the project site is located on currently vacant and undeveloped land, implementation of the proposed project would not displace any existing housing or people, necessitating the construction of replacement housing elsewhere. Therefore, there would be no impact.

3.12.5 Cumulative Impact Analysis

As discussed above, the proposed project would introduce an estimated 603 people resulting from the development of 192 residential units (or approximately 484 people greater than the existing zoning of the site permits). Based upon regional projections, comparisons to current land use designations, and comparison with the RHNA planning periods, the introduction of the estimated 603 people would not be considered substantial. Impacts would be less than significant.

The cumulative projects listed in Table 2-3 would either directly or indirectly induce population growth. Projects that include residential development may increase population in the City similar to the proposed project. These cumulative projects include the various residential and mixed use development projects listed in Table 2-3, including smaller condominium projects and larger master planned communities such as the Valiano project. In addition, commercial development is proposed or approved, which can indirectly lead to population growth in the City and surrounding areas. 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 substantial. Similar to the City, the neighboring jurisdictions manage population growth and housing stock to meet their RHNA requirements.

Further, the project would not result in the removal of a barrier of growth that would reasonably result in the intensification or development of land. All utility and infrastructure improvements would be sized to only adequately serve the proposed project (see Section 3.17, Utilities and Service Systems). Additionally, because the project is surrounded by existing and planning development, it is unlikely that the approval and construction of the project would lead to an intensification of the land uses in the immediate vicinity of the site. Therefore, a cumulative impact would not occur.

3.12.6 Mitigation Measures

No significant impacts are identified; therefore, no mitigation measures are required.

3.12.7 Conclusion

As discussed above, the proposed project would introduce an estimated 603 people resulting from the development of 192 residential units (or approximately 484 people greater than the existing zoning of the site permits). Based upon regional projections, comparisons to current land use designations, and comparison with the RHNA planning periods, the introduction of the estimated 603 people would not be considered substantial. Impacts would be less than significant.

Since the project site is located on currently vacant and undeveloped land, implementation of the proposed project would not displace any existing housing or people, necessitating the construction of replacement housing elsewhere. Therefore, there would be no impact.

3.13 PUBLIC SERVICES

This section describes the existing setting of the 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. A Preliminary Fire/Medical Response Analysis was prepared by Dudek in July 2018 and included as Appendix G2 of this EIR. Further, a Conceptual Wildland Fire Evacuation Plan (Evacuation Plan) for the Sunrise Community was prepared by Dudek in August 2018 and included as Appendix G3 of this EIR.

Table 3.13-1 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
<i>#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:</i>			
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.	Less than Significant	Less than Significant	Less than Significant
Parks.	Less than Significant	Less than Significant	Less than Significant
Other public facilities.	Less than Significant	Less than Significant	Less than Significant

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 (SMFPD) boundary. The City of San Marcos Fire Department (SMFD) would provide fire protection and emergency medical services to the project. The SMFD provides structural fire protection and advanced life support-level emergency medical services within the limits of the City of San Marcos (City); unincorporated territory adjacent to the City's northern boundary; discontinuous, unincorporated areas between the City of San Marcos and the City of Escondido, which includes the project site; and the community of Lake San Marcos. The SMFD operates two Fire Stations (Stations 1 and 3) that would respond to an incident at the proposed project site, although primary response would be from Station 3, with

Station 1 responding as necessary (Appendix G2). Table 3.13-2 presents a summary of the location, equipment, and staffing levels for the two SMFD stations responding to the site. These fire station locations are presented in Figure 3.13-1. As discussed in Appendix G2, SMFD estimates approximately 11,490 total annual calls for a City-wide total population of 95,000. The City's per capita call volume is roughly 121 calls per 1,000 persons.

Table 3.13-2
SMFD Responding Fire Stations Summary

Fire Station	Location	Equipment	Staffing ¹
Station 1	180 W. Mission Road San Marcos, California 92069 (approximately 2.6 miles from the project site via roadway travel)	Paramedic Engine Co. Paramedic Truck Co. Wildland Fire Engine Paramedic Ambulance Battalion Chief Vehicle	On duty: 9
Station 3	404 Woodland Pkwy San Marcos, California 92069 (approximately 1.3 miles from the project site via roadway travel)	Paramedic Engine Co. Wildland Fire Engine Paramedic Ambulance	On duty: 5

Source: Appendix G2

¹ Both Stations are cross staffed with wildland fire (brush) engines.

Police Protection

Police protection services for the proposed project would be provided by the San Diego County Sheriff's Department under contract with the City. As shown in Figure 3.13-1, the proposed 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 2018).

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. Law enforcement services include general patrol, criminal investigation, crime prevention, juvenile services, narcotics and gang investigations, communications and dispatch, and various management support services. Services are available 24 hours a day, 7 days a week. Over 100 deputies, volunteers, and professional staff members serve the residents of San Marcos. Additionally, Community Oriented Police and Problem Solving (COPPS) teams are assigned to investigate community quality of life issues (San Diego County Sheriff's Department 2015). 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.

Schools

The project site is located within the San Marcos Unified School District (SMUSD) (SANDAG 2018). SMUSD is 49 square miles in size and encompasses most of the City of San Marcos and portions of the cities of Vista, Escondido and Carlsbad, as well as unincorporated areas of the County of San Diego between these cities. SMUSD provides kindergarten through 12th grade education in the City of San Marcos and operates ten elementary schools, three middle schools, two comprehensive high schools, one continuation high school, one independent study high school, one charter school, and one adult education school (San Marcos Unified School District 2018).

Schools that would serve the project site include:

- Knob Hill Elementary School, located at 1825 Knob Hill Rd. San Marcos, CA 92069
- Woodland Park Middle School, located at 1270 Rock Springs Rd. San Marcos, CA 92069
- Mission Hills High School, located 1 Mission Hills Ct. San Marcos, CA 92069

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 2012a).

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 Jack's Pond Park, located approximately 0.60 mile west of the site. Jack's Pond Park consists of picnic areas, trails, and turf field. Other nearby parks include Knob Hill Park, located 0.73 mile northeast of the site, and Montiel Park, located approximately 0.85 mile northeast. Knob Hill Park provides picnic areas and turf fields, while Montiel Park also provides basketball courts, a dog park, and disc golfing (City of San Marcos 2012a).

Libraries

The City is served by the San Diego County Library, San Marcos Branch located at 2 Civic Center Drive, approximately 1.8 miles northwest of the project site. The San Marcos Branch is 15,394 square feet (City of San Marcos 2012b), and contains a MakerBot 3D printer, a 28-person capacity meeting room, is Americans with Disabilities Act (ADA) accessible, and is open seven days a week (San Diego County Library 2019).

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 (CFC) and Office of the State Fire Marshal provides regulations and guidance for local agencies in the development and enforcement of fire safety standards. The CFC 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 Section 17.52.050

Per the City's Municipal Code Section 17.52.050, for the purpose of establishing an interim method of providing classroom facilities where overcrowding conditions exist as determined pursuant to Section 17.52.040(a), 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 Sheriff'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.
 - **Goal LU-11: Schools:** Ensure all residents have access to high-quality education.
 - **Policy LU-11.1:** Collaborate with the local public school district (SMUSD), private schools, and institutions of higher learning to ensure a range of traditional and distance-learning educational opportunities are provided in superior, accessible facilities that complement the surrounding land uses.
 - **Policy LU-11.2:** Work with San Marcos Unified School District and developers to ensure adequate school facilities are funded as required by State law and through developer mitigation agreements between the school district and the developer. The City shall require a “will serve” letter substantiating that the developer has paid fees to the satisfaction of the school district prior to issuance of building permits.
 - **Goal LU-12: Libraries:** Provide library resources and services that meet the needs of the community.
 - **Policy LU-12.1:** Provide adequate library facilities and technological access that enhance San Marcos’s quality of life and create a civic environment with vast opportunities for self-learning and academic enrichment.
 - **Policy LU-12.2:** Accommodate technology needs of the community and locate accessible technology in the library.

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 2012a):

- **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 2012a):

- **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, 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 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?

The proposed project would increase the demand on SMFD resources as a result of the development of residential uses and the associated population increase. Additional residents on the project site would increase the need for fire protection services through routine fire and emergency medical calls.

The Preliminary Fire/Medical Response Analysis prepared for the proposed project (Appendix G3) analyzes whether or not the proposed project would meet the SMFD's response goal. The SMFD was contacted for their input on the proposed project, including information regarding stations serving the project, current staffing, response times, and other items related to fire protection services. The SMFD indicated that "the average initial total response standard in the City of San Marcos is to arrive within seven minutes for 90% of the emergency calls received, and within 10 minutes for 90% of the non-emergency calls received" (Nailon 2018). This is a less stringent response than suggested by the National Fire Protection Association (NFPA) which publishes a national guideline of 6 minutes and 30 seconds (4 minutes travel response time), 90% of the emergency calls received. Travel time is one part of the overall response time and is based largely on the distance from the fire station to the project.

Table 3.13-3 outlines the estimated response times to the project site from both Stations 1 and 3. As shown in this table, response to the project site from Station 3, the closest existing SMFD fire station, would achieve a 3 to 4 minute travel time (5.5 to 6.5 minute total response time¹). The analysis indicates that the first arriving paramedic engine and ambulance from Station 3 would be able to respond within SMFD's seven minute total response goal (including one minute for dispatch and 1.5 minutes for turnout) to an estimated 100% of the site. Because Fire Station 1 is further away from the site, travel times to the site would range from 5.5 to 6 minutes, with total response times ranging from 8 to 8.5 minutes.

¹ The Preliminary Fire/Medical Response Analysis evaluates travel time and assumes the dispatch and turnout times as a constant i.e., 2 minutes and 30 seconds, total.

Table 3.13-3
SMFD Fire Station Time Response to Project

Call Response Times	Estimated Percent of Sunrise Project Achievable			
	Fire Station 1		Fire Station 3	
	Travel Time	Total Response Time ¹	Travel Time	Total Response Time ¹
Less than 5 minutes	0%	0%	100%	42%
5 to 6 minutes	82%	0%	100%	100%
6 to 7 minutes	100%	0%	100%	100%
7 to 8 minutes	100%	100%	100%	100%
8 to 9 minutes	100%	100%	100%	100%

Source: Appendix G3

Notes:

¹ Total response time assumes dispatch and turnout times as a constant (i.e., 2 minutes and 30 seconds, total).

The project would include up to approximately 192 residential units. According to State of California, Department of Finance (DOF 2018), there are approximately 3.14 residents per housing unit. Using this figure, buildout of the proposed project is estimated to add an additional 603 residents to the City. A total population of 603 residents are calculated based on an average of 3.14 occupants per household. The project's estimated 603 residents would generate roughly 73 calls per year or 0.2 call per day, most of which are expected to be medical-related calls. Service-level requirements for SMFD are not expected to be substantially affected with the increase of less than one call per day, even if all of the calls are from the closest station. SMFD currently responds on the average to just over 32 calls per day in its entire service area, or roughly 8 calls per day per fire station. For reference, a station that responds to 5 calls per day is considered average and 10 calls per day is considered busy (Appendix G2). Even though the stations are considered reasonably busy, the project is not expected to cause a decline in the SMFD response times. As such, the project complies with the City's total response time standard.

Further, the proposed project would be required to comply with SMFD and California Fire Code requirements, which were identified during the project planning phase and during the Fire Marshal's review of the project. Specific design feature requirements, as noted in EIR Section 2.2.2.2, applicable to the proposed project include a design which affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, §503.1 through 503.4 of the California Fire Code); an adequate number of emergency rated entrances to the community (Appendix D, §D106 of the California Fire Code); and entryway gate access for first responders (Chapter 5 of the California Fire Code, §503.6). Two points of entry have been identified for the project site and are designed to meet the design requirements codified in the California Fire Code. Both project site entrances would meet the qualifications for emergency access to and from the project site. The proposed private driveways have been designed to accommodate fire and emergency apparatus. With the Fire Marshal's review of the proposed project, and compliance with SMFD and California Building Code, proposed project would provide adequate emergency access.

Lastly, an Evacuation Plan (Appendix G3) has been prepared for the proposed project, based on the City's Emergency Operations Procedures, the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan (EOP) – Evacuation Annex and establishes a framework for implementing well-coordinated evacuations. The Evacuation Plan outlines evacuation coordination process for the proposed project, as well as the proposed evacuation network, and resident awareness and outreach.

The proposed project would comply with the City's total response time standard as well as SMFD and California Fire Code requirements. Additionally, the project would participate in existing Community Facilities Districts for fire protection. The project would not result in the need for the construction of new or physically altered fire protection facilities; therefore, impacts would be less than significant.

Police protection?

As discussed in Section 3.13.1, above, the San Diego County Sheriff's Department provides law enforcement services to the City. More specifically, the project would be served by the San Marcos Station, located approximately 1.2 miles from the project site. The project would introduce approximately 603 residents on-site, resulting in an increased demand on existing police protection resources. The increased density of development on the project site would be expected to increase the frequency of emergency and non-emergency calls to the Sheriff's Department. However, as discussed in Section 3.13.1, above, over 100 deputies, volunteers, and professional staff serve the 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. Unlike fire services, which respond solely to emergencies, law enforcement services consist of patrolling large areas 24 hours a day, 365 days a year. 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" (San Diego County Sheriff's Department 2015). As such, the location of the proposed project relative to the nearest station would not affect police protection.

Further, in an effort to minimize the increased demand for police protection services, the project has been designed to improve the safety for future residents and visiting guests. Safety features proposed include controlled access gates at the project entries and walls/fences. Lastly, lighting would be implemented throughout the site to provide safety (see Figure 2-7 in Chapter 2, Project Description). Additionally, the project would participate in existing Community Facilities Districts for police protection. Thus, while new development places increased demand on police protection services, it is not anticipated that the proposed project would result in the need for construction or expansion of existing police facilities. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities. Impacts resulting from the proposed project would be less than significant.

Schools?

The proposed project would introduce 603 residents to the site, some of which are expected to be students. Using the San Marcos Unified School District student generation rates (elementary students = 0.2271, middle school students = 0.0963, high school students = 0.1032) the project would generate approximately 44, 19, and 20 elementary, middle, and high school students, respectively. However, the developer 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. The applicant shall pay the school mitigation fees that are in effect at the time of building permit issuance, unless a direct agreement has been made with the San Marcos Unified School District. The current school fee for residential development required by San Marcos Unified School District is \$5.61 per square foot; however, this fee amount could change between the drafting of this EIR and the time of building permit issuance (San Marcos Unified School District 2019). Further, consistent with General Plan Policy LU-11.2, the applicant shall provide a letter from the school district(s) to the City prior to the issuance of building permits confirming these fees have been paid (City of San Marcos 2013). State Bill (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. Such payment shall provide "full and complete mitigation of the impacts of any legislative or adjudicative act...on the provision of adequate school facilities" (Government Code Section 65995(h)). As such, with contribution of required development fees, impacts to schools would be less than significant.

Parks?

Buildout of the proposed project is estimated to add an additional 603 residents to the City. Assuming five acres of park space per 1,000 residents, this equates to a demand of approximately 3.0 acres of park space generated by project residents.

The proposed project includes 6.16 acres of open space, including 2.76 acres of useable common open space and 0.99 acres of private open space. Of these, 14,835 square feet would be utilized for recreational facilities, including the 10,283-square-foot pool deck area with a bocce ball court and horseshoe pits, a multi-age playground, a tot lot. As described in EIR Section 3.14.4, Recreation, per Section 20.215(c)(1)(a) of the City's Municipal Code, one tot lot is required for every 25 dwelling units of a multi-family housing project, with a minimum of 400 square feet of play area for each tot lot. However, the proposed project would provide four tot lots instead of the required 8, to be dispersed throughout the project site and total approximately 4,978 square feet (approximately 1,878 square feet more than the Municipal Code requirement). By deviating from the Municipal Code, the proposed project would provide more overall square footage than otherwise required, maximizing the recreational areas for potential use of a broader age group.

Further, as discussed in Section 3.14.4, to the project would provide approximately 120,239 square feet (2.76 acres) of useable common open space. In addition to the common useable open space, the project would include approximately 0.99 acres of private open space. The proposed project would meet and exceed the common useable and private open space requirements per the City's Municipal Code. Additionally, the proposed project would be required to pay the City's Public Facility Fees (PFF), required to all projects that increase the demand for park and recreation needs in the City, to be used for developing public neighborhood and regional parks and recreational facilities. The provision of useable common open space, private open space, and payment of the PFF would maintain the City's service standard for parks within the City.

Lastly, impacts associated with construction of the proposed project's open spaces areas are considered within the overall development footprint for the proposed project, which that been incorporated into the analysis throughout this EIR. As such, with provision of open space on-site and payment of park in lieu-fees, impacts would be less than significant.

Other public facilities?

Development of the project would add an additional 603 residents to the City. This would increase the demands on library services and resources. However, additional library services are available in the County through a cooperation of County libraries, independent city libraries, and the Imperial County Library, which collectively form the Serra Library System. This system enables County library cardholders to check out library materials from the other Serra member libraries (Serra Cooperative Library System 2016). In addition, community members can purchase a community borrower card to obtain borrowing privileges at the California State University San Marcos (CSUSM) campus (California State University San Marcos 2019). Community members can also borrow materials at Palomar Community College with a valid picture ID and proof of current mailing address (Palomar College 2018). These additional library resources are located in the San Marcos community and provide over 200,000 square feet of additional library space. Therefore, a less than significant impact is identified for this issue area.

3.13.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project's cumulative impact with respect to public services, the cumulative analysis is based upon a list approach to

determine the proposed project's contributing effect on potential cumulative impacts related to public services (see Table 2-3, Cumulative Projects).

Fire Protection Services

The geographic area for the cumulative analysis of fire protection and emergency services is those areas that are serviced by the SMFPD. The cumulative projects that fall within this geographic area would add to the increase in demand for fire protection and emergency services. The SMFPD 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, above, although the proposed project would introduce approximately 603 residents on-site, the project is not expected to cause a decline in SMFD response times. Nonetheless, the cumulative projects listed in Table 2-3 would result in additional demand of fire protection services, and the potential need for additional fire protection resources. However, all cumulative projects would be required to participate in existing Community Facilities Districts as determined necessary. Future projects would be required to offset the increase in demand caused by their respective project. Development fee payments would go towards providing the additional staff and equipment that would be needed by SMFD in the future to provide fire protection services, including potential new fire stations. Similarly, to offset any potential cumulative impacts to fire protection services, the project would pay all required development impact fees. Thus, cumulative impacts to fire protection services 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 listed in Table 2-3 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 1.2 miles from the project site. As discussed in Section 3.13.4, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities. However, the cumulative projects listed in Table 2-3 would result in additional demand of police protection services, and the potential need for additional police protection resources. Nonetheless, all cumulative projects would be required to offset increased demand to police protection services, through the payment of fees. These fees would provide for additional staff and equipment to assist in the provision of law enforcement services. In order to offset any potential cumulative impacts to fire protection services, the proposed project would also be required to contribute toward the future police protection resources through the payment of fees. As such, with payment of fees, cumulative impacts to police protection services would be less than significant.

Schools

Cumulative projects on Table 2-3 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 applicant 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. The applicant shall pay the school mitigation fees that are in effect at the time of building permit issuance. The current school fee for residential development required by San Marcos Unified School District is \$5.61 per square foot; however this fee amount could change between the drafting of this EIR and the time of building permit issuance (San Marcos Unified School District 2019). Further, consistent with General Plan Policy LU-11.2, the applicant shall provide a letter from the school district(s) to the City prior to the issuance of building permits confirming these fees have been paid (City of San Marcos 2013). All of the cumulative projects included in Table 2-3 that would in would result in increased demand to school, would be required to pay school fees to offset the increase demand, similar to the proposed project. As such, with contribution of required development fees by the proposed project and related projects, cumulative impacts to schools would be less than significant.

Parks

The proposed project as well as the cumulative projects that are in the City of San Marcos (as identified in Table 2-3) would add to the cumulative demand for park and recreation facilities in the City. All residential projects that increase the demand for park and recreation needs in the City are required to provide park space and/or pay park in lieu-fees. The environmental documentation prepared for each project would analyze impacts associated with the construction of any parks within each overall development footprint. As discussed in Section 3.13.4, the proposed project 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, to be 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. As such, cumulative impacts on recreational facilities in the City would be less than significant.

Libraries

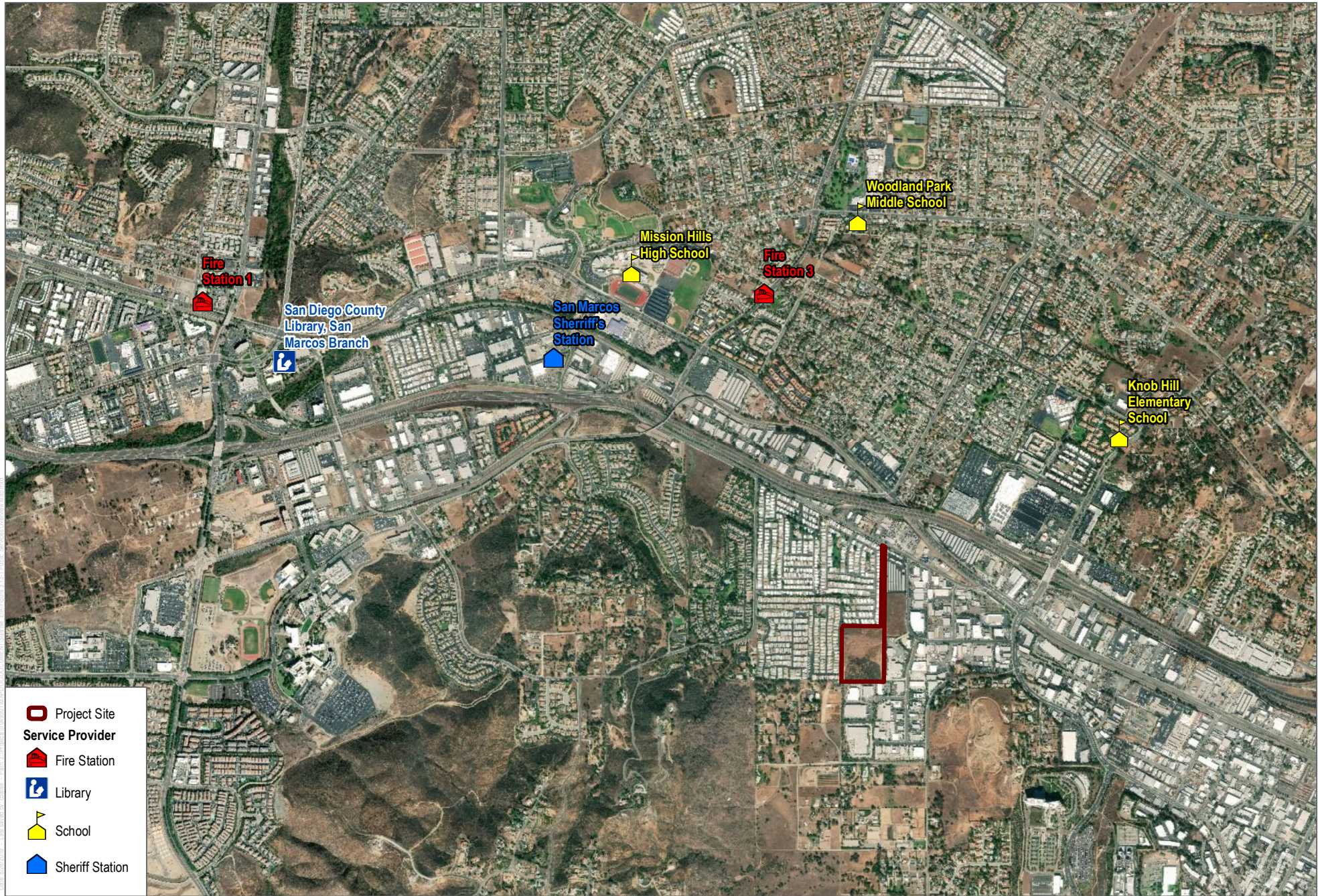
Cumulative projects within the services area of the San Marcos Branch Library would result in an increase in demand for library services. Aside from the San Marcos Branch, additional library services are available in the County through the Serra Library System. In addition, community members can get borrowing privileges at the CSUSM campus and the Palomar Community College. Cumulative impacts to library services would be less than significant.

3.13.6 Mitigation Measures

No significant impacts to public services were identified; thus, no mitigation measures are required.

3.13.7 Conclusion

Development of the proposed project would result in an increase in demand for fire protection, emergency medical services, police protection, school services, and library facilities. However, the project applicant would be required to pay all applicable development fees 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, and payment of the City's PFF, required to all projects that increase the demand for park and recreation needs in the City, in order to avoid direct and cumulative impacts to schools and parks. Although the project, on its own, is not expected to result in impacts to fire and police protection services, with the additional demand on fire and police services, to be added by the cumulative projects listed in Table 2-3, potential need for additional fire and police protection resources could occur. As such, the project applicant would be required to pay all required development fees to fire and police services to offset any potential cumulative impacts. As such, with payment of fees towards schools, parks, fire, and police, impacts to public services would be less than significant.



SOURCE: BING 2018

FIGURE 3.13-1

Public Services Overview

Sunrise Specific Plan Environmental Impact Report

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3.14 RECREATION

This section describes the existing recreation setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project.

Table 3.14-1 summarizes the project- and cumulative-impact analysis by threshold for the proposed 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.	Less Than Significant	Less Than Significant	Less Than Significant
#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.	Less than Significant	Less than Significant	Less than Significant

3.14.1 Existing Conditions

This section describes existing park, recreation facilities, and trails on the project site and in the project vicinity.

Regional Parks and Recreation Facilities

The City and neighboring jurisdictions provide several large regional focused parks, such as Double Peak Regional Park (located outside the City), and open space areas, including the Del Dios Highland Preserve, Lake Hodges, and Dixon Lake Recreation Area.

City Parks and Recreation Facilities

According to the City's General Plan, the City has nearly 270 acres of developed parkland, consisting of 149 acres of neighborhood parks, 98 acres of community parks, 20 acres of smaller parks, and three acres of other recreational facilities (City of San Marcos 2012).

3.14 Recreation

The San Marcos General Plan park acreage standard calls for five acres of parkland for every 1,000 residents (City of San Marcos 2012). The San Diego Association of Governments (SANDAG) estimates a population of 93,295 residents in 2016 for the City. SANDAG's growth forecasts also predict a 14 percent increase in the City's population, for a total of approximately 107,929 residents by 2025 (SANDAG 2018). Using 2016 population figures, approximately 466 acres of parkland is required to meet the General Plan park standard. Using 2025 population figures, approximately 540 acres of parkland would be necessary.

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. More specifically, the closest park to the project site is Jack's Pond Park, located approximately 0.60 mile west of the site. Jack's Pond Park consists of picnic areas, trails, and turf field. Other nearby parks include Knob Hill Park, located 0.73 mile northeast of the site, and Montiel Park, located approximately 0.85 mile northeast. Knob Hill Park provides picnic areas and turf fields, while Montiel Park also provides basketball courts, a dog park, and disc golfing (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 2017). 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 proposed 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 (Government Code [GC] 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 (CFDs) 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'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 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:

- **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, 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 2017).

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 2017). An update to the Master Trails Plan is anticipated to be completed by 2019.

3.14.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to recreation are based on Appendix G of the 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

As discussed in Section 2.2.2.2 of this EIR, the proposed project includes 6.16 acres of open space comprised of four categories: common open space area with grades 10% or greater, common open space area with grades less than 10%, private open space, and bioretention areas. The proposed open space areas are also shown on Figure 2-3 and Table 3.14-2, below.

Table 3.14-2
Open Space Distribution

Open Space	Acreage
Common Open Space area w/ grades 10% or greater ¹	2.12
Common Open Space area w/ grades less than 10% ²	2.76
Private Open Space	0.99
Bioretention Areas	0.29
Total	6.16

Source: Appendix B

Notes:

¹ Common open space with grades of 10% or greater cannot be counted as usable open space.

² Common open space with grades of 10% or less are considered usable open space.

3.14 Recreation

According to Section 20.215.060(B)(4) of the San Marcos Municipal Code Zoning Ordinance Title 20, common open space with grades of 10% or greater cannot be counted as usable open space. This category includes open space features such as landscaping, open turf areas, and bioretention areas (although for purposes of this analysis, bioretention areas are classified separately).

Common open space area with grades of 10% or less are known as areas of usable open space that encourage passive recreation as well as active recreational open space areas such as pool area, recreational facilities, tot lots, and barbeque stations. As shown in Table 3.14-2, above, the project would include 2.76 acres of common useable open space area.

Further, per Section 20.215(c)(1)(a) of the City's Municipal Code, one tot lot is required for every 25 dwelling units of a multi-family housing project, with a minimum of 400 square feet of play area for each tot lot. This would amount to approximately 8 tot lots distributed throughout the project with an approximate total of 3,100 square feet of play area. The proposed project would provide four tot lot spaces dispersed throughout the project site. The four tot lots would total approximately 4,978 square feet, which is approximately 1,878 square feet more than the Municipal Code requirement. In order to accommodate play areas for children of different age groups, the project distributed the play structures throughout the project site. The northern half of the project contains the 1,075 square foot Common Area Gathering Space #1, a 983 square foot tot lot for children aged 2-5, as well as a multi-age play structure. The 983 square foot tot lot and multi-age play structure are both located within the Pool Deck Recreation Area. The southern half of the project area contains Common Area Gathering Space #2 (1,175 square feet), for children aged 2-5 and Common Area Gathering Space #3 (1,745 square feet), for children aged 5-12.

In total, the proposed project would provide an approximately 14,835 square feet of recreational facilities, including the 10,283-square foot pool deck recreation area. The pool deck recreation area includes an 1,875 square foot pool, 130 square foot spa, a pool building (includes restrooms, storage area, and pool equipment), barbeque counter and patio space, a 300 square foot bocce ball court and horseshoe pit, a 1,614 square foot multi-age playground, and a 982 square foot tot lot. By deviating from the Municipal Code, the proposed project would provide more overall square footage than otherwise required, maximizing the recreational areas for potential use of a broader age group. These common area gathering spaces and the pool deck recreation area are shown on Figure 2-3 and outlined in Table 3.14-3, below. The applicant/owner would pay for the construction and ongoing maintenance of these common areas; the City would not be responsible for the maintenance of on-site open space.

**Table 3.14-3
Recreation Facilities Proposed**

Open Space Area	Amenities	Square Feet
Common Area Gathering Space 1	One multi-age play tower and artificial turf play area	1,075
Common Area Gathering Space 2	One tot lot and playhouses and artificial turf area	1,175
Common Area Gathering Space 3	One climb structure and artificial turf area	1,745
Overlook Area	One barbeque counter, overlook space, and artificial turf area	557
Pool Deck Area	Pool, spa, recreational building, multi-age playground, tot lot, and other outdoor space	10,283
Total		14,835

According to Section 20.215.050 of the City's Municipal Code, private open space is required for each multi-family dwelling unit containing ground floor living space. For units with usable ground floor living area, approximately 250 square feet of private open space is required, while for units with no usable ground floor living space, approximately 50 square feet of private open space is required. The proposed project would provide a total of 0.99 acres of private open space. The proposed project includes an approximate total of 40,264 square feet of private open space within the project site, which is greater than the 39,200 square feet required.

Additionally, approximately 0.29 acres of bio-retention areas are proposed. These areas are passive open space areas, which are used to direct water during rain events to control for flooding and to treat water before it is discharged from the site.

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?

According to the State of California, Department of Finance (DOF), there are approximately 3.14 persons per housing unit in San Marcos (DOF 2018). Using this figure, buildout of the proposed project is estimated to add an additional 603 residents to the City. This increase in residents would increase demands for neighborhood and regional parks and other recreational facilities. Assuming five acres of park space per 1,000 residents (the minimum standard goal of the City's General Plan discussed in Section 3.14.2), the addition of residents on site equates to a demand of approximately 3.0 acres of public park space generated by project residents. The project applicant would be required to pay the City's Public Facility Fees (PFF), required to all projects that increase the demand for park and recreation needs in the City. The PFF money would go towards the acquisition and development of local and community park facilities throughout

the City, to offset the demand on public park space generated by the project, as described in Municipal Code Chapter 17.36 and 17.44. Payment of the PFF shall be made prior to City issuance of the first building permit for the proposed project. Therefore, payment, which would ultimately contribute to development of new parks and recreational facilities, would offset the increase in demand of parks and recreational facilities generated by the proposed project, such that existing facilities would not substantially deteriorate. Impacts to existing neighborhood and regional parks would be less than significant.

In addition, as discussed above, the project would provide 120,239 square feet (2.76 acres) square feet of common useable open space. In addition to the common useable open space, the project would include approximately 0.99 acres of private open space. The proposed project would meet and exceed the common useable and private open space requirements per the City's Municipal Code. As such, with payment of the required PFF in combination with provision of on-site common and private open space, the project would meet and exceed the anticipated demand for neighborhood and regional parks or other recreational facilities. Project residents would have access to adequate on-site recreational facilities, which will offset increased use of existing parks and recreational facilities. Therefore, project residents would not cause or result in the overuse of existing parks and recreational facilities such that substantial physical deterioration would occur. Impacts to neighborhood and regional parks would be less than significant.

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?

Impacts associated with construction of the proposed project's public and private open space are considered within the overall development footprint for the proposed project. Impacts from the development of proposed recreational facilities have been considered in the project impact analysis and mitigation measures for the proposed project as a whole are discussed in the various sections of this EIR.

As stated under Threshold #1, the project applicant would be required to pay the City's PFF that would go towards the acquisition and development of local and community park facilities throughout the City. As such, the project applicant may contribute to the construction or expansion of recreational facilities off-site that may have an adverse physical effect on the environment. Future expansion or development of new recreational facilities would be subject to CEQA environmental review as appropriate, which would identify and address any site-specific impacts. Therefore, impacts due to the construction or expansion of recreational facilities are considered less than significant.

3.14.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects which, when considered together, are considerable or which 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 proposed project's cumulative impact with respect to recreation, the cumulative analysis is based upon a list approach to determine the proposed project's contributing effect on potential cumulative impacts related to recreation. All of the cumulative projects within the City identified in Table 2-3 are considered in this cumulative analysis.

The proposed project as well as the cumulative projects that are in the City of San Marcos (as identified in Table 2-3) would add to the cumulative demand for park and recreation facilities in the City. The proposed project would provide 2.76 acres of common usable open space, defined as common open space area with grades of 10% or less. Further, private open space totaling 0.99 acres would be provided for each dwelling unit as well as a 0.29-acre bio-retention basin area. The project applicant would be required to pay the City's PFF which helps pay for the acquisition and development of local and community park facilities throughout the City.

All cumulative projects that increase the demand for park and recreation needs in the City would be required to provide park space and/or pay the City's PFF. Furthermore, any substantial expansion or development of new recreational facilities would be subject to the appropriate CEQA environmental review prepared by the City, which would identify and address any site-specific impacts. Therefore, implementation of City policies, such as the collection of PFF, along with compliance with CEQA requirements would ensure that cumulative impacts to recreational facilities would be properly addressed and mitigated. Therefore, cumulative impacts to recreational facilities are considered less than significant.

3.14.6 Mitigation Measures

No significant impacts to recreation were identified; thus, no mitigation is required.

3.14.7 Conclusion

The proposed project would result in an increase in the City of San Marcos population by approximately 603 residents. The additional residents would require approximately 3.0 acres of new park space to fulfill the City's General Plan requirement of five acres of park space per every 1,000 residents. The proposed project would be required to pay the City's PFF, to go towards the acquisition and development of local and community park facilities throughout the City in addition to what is provided on-site. Additionally, the project includes 2.76 acres of common usable open space and 0.99 acres of private open space. With payment of the PFF and provision of on-site open space, impacts would be less than significant.

Lastly, any impacts associated with the development of proposed open space have been considered in the project impact analysis and mitigation for the proposed project as a whole and are discussed in the various sections of this EIR. Therefore, impacts resulting from construction of new park facilities would be less than significant.

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3.15 TRANSPORTATION

This section describes the transportation impact analysis for the proposed project. It includes a description of existing traffic conditions, trip generation for the proposed project, traffic modeling, and identification of mitigation measures. The section is based on the Sunrise Residential Transportation Impact Analysis (TIA), prepared by Linscott, Law & Greenspan Engineers (LLG) in December 2019. The complete report is included as Appendix J.

The transportation impact analysis prepared for the proposed project is consistent with the objectives and requirements of the City of San Marcos's General Plan Mobility Element¹ 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.	Potentially Significant	Potentially Significant	Significant and Unavoidable with MM-TR-1 through MM-TR-6; Less than Significant with MM-TR-7
#2 - Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).	No Impact	No Impact	No Impact
#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

LLG established the project area based on a due-diligence report prepared for the project by KOA Corporation (KOA Corporation 2017), in conjunction with the regional San Diego Traffic Engineers Council/Institute of Traffic Engineers (SANTEC/ITE) Guidelines for Traffic Impact Studies (TIS) in the San Diego Region. Accordingly, the project traffic study area includes 12 intersections and 7 street segments. The proposed project driveways are included in the project traffic study area for analysis. Additionally,

¹ <http://www.san-marcos.net/home/showdocument?id=8479>

three metered on-ramp locations are studied. Prior to completion of the “Woodland Parkway Highway 78 Interchange” project, project traffic oriented to SR-78 eastbound would use the on-ramp from Barham Drive. With the completion of that project it is anticipated this traffic would shift to the Nordahl Road on-ramp². As such, future planned ramps are included in the appropriate traffic analysis scenarios. Figure 3.15-1 shows the project area, under existing conditions. Figure 3.15-2 shows existing traffic volumes in the project area.

Roadway Circulation System

State Route 78 (SR-78) provides regional access to the City of San Marcos (City) as a six-lane major freeway facility, generally oriented in an east-west direction. Regional project access to the westbound SR-78 is provided by signalized on/off-ramps at the Nordahl Road diamond interchange and unsignalized on/off ramps from/to Rancheros Drive. Regional project access to the eastbound SR-78 is provided by signalized on/off-ramps at the Nordahl Road diamond interchange, a signalized off-ramp to E. Barham Drive (west of Woodland Parkway), and a signalized on-ramp from E. Barham Drive (east of Woodland Parkway).

Woodland Parkway is classified as a four-lane roadway in the City’s General Plan Mobility Element and is oriented in a north-south direction, west of the project site. In the project study area, Woodland Parkway connects East Barham Drive to Rancheros Drive, which provides access to and from westbound SR-78. Between East Barham Drive and Rancheros Drive, Woodland Parkway is approximately 400 feet in length, and provides 3 lanes (including turn lanes) in 32 feet of width. The posted speed limit in the study area is 40 miles per hour (mph), and on-street parking is not allowed west.

East Barham Drive is oriented in the east-west direction, and is classified within the study area within the City’s General Plan Mobility Element as a four-lane arterial. Class II or III bicycle facilities are located within East Barham Drive from Woodland Parkway, east to the City’s boundary with Escondido, and just west of Meyers Avenue. East Barham Drive is currently built as a four-lane, undivided roadway with a two-way left-turn lane median, from Woodland Parkway to east of La Moree Road, where it transitions to a two-lane undivided roadway with a two-way left turn lane median until it reaches City limits. The posted speed limit is 35 mph. The four-lane section described provides Class II bicycle lanes while the two-lane section does not provide separate bicycle facilities. On-street parking is generally prohibited.

² Currently traffic from the project could access SR-78 eastbound either from Barham Drive (1/4 mile west) or Nordahl Road (1/2 mile east). Additionally, the Barham Drive access would permit right-turn out only. Although it is slightly out-of-direction, project traffic is expected to use the on-ramp from Barham Drive and avoid the congested arterial street intersections on Mission Road and Nordahl Road. The planned interchange project will close the existing on-ramp from Barham Drive and realign it with the other ramps just west of Woodland Parkway, located about 1 mile west of the project site. Since this would result in 2 miles of out-of-direction travel to enter on SR-78 eastbound, it is not a realistic option for traffic. Traffic bound for SR-78 eastbound would be expected to shift to Nordahl Road after the existing Barham Drive on-ramp is closed.

Barham Drive is oriented in the east-west direction, and is classified as a collector in the City of Escondido's General Plan Circulation Element from Escondido's limits with the City west, to Mission Road. From the City limits to Mission Road, Barham Drive is currently constructed as a two-lane roadway with a posted speed limit of 35 mph. On-street parking is generally prohibited, except for a portion of the north side of the roadway, between La Moree Road and the SR-78 on-ramp.

Mission Road is oriented in the east-west direction, with portions in both the City and Escondido in the study area. Within the City of San Marcos, it is classified in the City's General Plan Mobility Element as a Four-Lane Arterial with Enhanced Bicycle/Pedestrian Facilities from Woodland Parkway to the city limits at approximately Barham Drive. Within the City of Escondido, it is classified as a Major Road in Escondido's General Plan Circulation Element eastward from the boundary between the City of San Marcos and City of Escondido. In the study area, Mission Road is currently constructed as a four-lane roadway with a raised median to the eastern edge of the study area where it transitions to a two-way left-turn lane median. The posted speed limit 45 mph. Curbside parking is prohibited. Class II bicycle lanes are provided on the San Marcos portion of the roadway within the study area, but do not currently continue on the portions within Escondido.

Nordahl Road is oriented in the north-south direction, and is classified as a four-lane arterial from SR-78 to the boundary between the City and Escondido, on the City's General Plan Mobility Element and classified as a Major Road on the Escondido's General Plan Circulation Element. Nordahl Road is currently constructed as a 7- to 8-lane divided roadway (depending on the location), due to turn pockets and/or the extension of turn pockets. The posted speed limit within Nordahl Road is 40 mph. Class II bicycle lanes are provided, and on-street parking is not permitted.

Auto Park Way is classified as a Major Road on the on the *City of Escondido Circulation Element*, southward from the city limits with San Marcos. Auto Park Way is oriented in the north-south direction. In the study area, Auto Park Way is currently constructed as a four-to-six-lane roadway with a raised median. The posted speed limit 40 mph. Curbside parking is prohibited, and Class II buffered bicycle lanes are provided.

Meyers Avenue is a two-lane industrial road that is unclassified on the *City of Escondido Circulation Element*. In the study area, Meyers Avenue is constructed as a 48-foot wide two-lane roadway. There are no posted speed limits in the area, and curbside parking is provided in both directions. No sidewalks or bike lanes are provided.

Existing Levels of Service

Existing levels of service (LOS) were determined at the study area intersections for the AM and PM peak hours. LOS analysis 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. The analysis results provide a quick overview of whether a segment is under,

3.15 Traffic and Circulation

approaching, or over capacity. 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 intersections, unsignalized intersections and roadway segments.

Intersections

Signalized and un-signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in the Highway Capacity Manual (HCM) 6th Edition, with the assistance of the Synchro 10 software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. Location-specific signal timing information was used in the analysis where available.

Traffic volumes and AM/PM peak hour intersection turning movement counts at the study area intersections were collected on September 20, 2018, when school was in session. Table 3.15-2 shows the current operating conditions of the study area intersections. The City of Escondido considers LOS D the threshold for unacceptable operations, while the City of San Marcos and Caltrans criteria indicate locations operating at LOS E or worse are unacceptable operations. As shown in Table 3.15-2, the following intersections currently operate at an unacceptable LOS during the AM and PM peak hours, based on their respective jurisdictions:

- Intersection #2. Rancheros Drive / SR-78 WB Ramps – LOS F/E in the AM/PM peak hours (*Caltrans*)
- Intersection #7. Barham Drive / Meyers Avenue – LOS F during the AM/PM peak hours (*Escondido*)
- Intersection #9. Mission Road / Nordahl Road – LOS D in the AM/PM peak hours (*Escondido*)

Table 3.15-2
Existing Peak Hour Intersection Conditions

#	Intersection	Jurisdiction	Control Type	Peak Hour	Delay (sec/veh)	LOS
1	Barham Drive / SR-78 Eastbound Off Ramp	Caltrans	Signal	AM	25.9	C
				PM	14.7	B
2	Rancheros Drive / SR-78 Westbound Ramps	Caltrans	AWSC	AM	61.5	F
				PM	48.6	E
3	Woodland Parkway / Rancheros Drive	San Marcos	Signal	AM	29.1	C
				PM	24.1	C
4	Barham Drive / Woodland Pkwy	San Marcos	Signal	AM	45.5	D
				PM	41.7	D
5	Barham Drive / SR-78 Eastbound On-Ramp	San Marcos	Signal	AM	7.1	A
				PM	32.7	C
6	Barham Drive /Project Driveway	San Marcos	DNE	AM	--	--
				PM	--	--

Table 3.15-2
Existing Peak Hour Intersection Conditions

#	Intersection	Jurisdiction	Control Type	Peak Hour	Delay (sec/veh)	LOS
7	Barham Drive / Meyers Ave	Escondido	MSSC	AM	>100.0	F
				PM	>100.0	F
8	Barham Drive / Mission Road	San Marcos	Signal	AM	27.9	C
				PM	31.9	C
9	Mission Road / Nordahl Road	Escondido	Signal	AM	39.2	D
				PM	52.1	D
10	Nordahl Road / SR-78 Eastbound Ramps	Caltrans	Signal	AM	23.4	C
				PM	34.9	C
11	Nordahl Road / SR-78 Westbound Ramps	Caltrans	Signal	AM	23.4	C
				PM	33.4	C
12	Meyers Avenue / Project Driveway	Escondido	DNE	AM	--	--
				PM	--	--

Appendix J, TIA.

LOS = Level of Service; AWSC = All-Way Stop Controlled intersection; DNE = Does Not Exist; MSSC = Minor-Street Stop Controlled

Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADT) to the City of San Marcos and City of Escondido Roadway Classification, Level of Service, and ADT Tables, depending on which jurisdiction the street segment is located within. These tables provide segment capacities for different street classifications, based on traffic volumes and roadway characteristics. Copies of the City of San Marcos and City of Escondido capacity tables are included in Appendix J of this EIR.

Street segment #3, Barham Drive from the SR-78 EB On-Ramp to Meyers Avenue, contains portions in both jurisdictions. In this case, the narrowest portion of the roadway, and therefore the lower capacity, is located in the Escondido portion of the segment, and this capacity is used for analysis.

Table 3.15-3 shows the classification of each project area roadway and the current operating conditions for the study area roadway segment. As shown in Table 3.15-3, the following roadway segments currently operate at an unacceptable LOS:

- Segment #1. Rancheros Drive from SR-78 Ramps to Woodland Parkway – LOS F (*San Marcos*)
- Segment #3. Barham Drive from SR-78 EB On-Ramp to Meyers Avenue – LOS D (*San Marcos/Escondido*)
- Segment #4. Barham Drive from Meyers Avenue to Mission Road – LOS D (*Escondido*)
- Segment #5. Mission Road from Barham Drive to Nordahl Road – LOS D (*Escondido*)
- Segment #6. Nordahl Road from SR-78 Ramps to Mission Road – LOS E (*Escondido*)

Table 3.15-3
Existing Street Segment Operations

Street Segment	Jurisdiction	Functional Classification	LOS E1 Capacity	ADT	LOS	V/C
<i>Rancheros Drive</i>						
1. SR-78 WB Ramps to Woodland Pkwy	San Marcos	2-Lane Collector	15,000	21,140	F	1.409
<i>East Barham Drive</i>						
2. Woodland Pkwy to SR-78 EB On-Ramp	San Marcos	4-Lane Collector	30,000	17,500	C	0.583
3. SR-78 EB On-Ramp to Meyers Ave	San Marcos/Escondido	2-Lane Collector (NP)	15,000	12,990	D	0.866
4. Meyers Ave to Mission Rd	Escondido	2-Lane Collector (WP)	10,000	8,610	D	0.861
<i>West Mission Road</i>						
5. Barham Dr to Nordahl Rd	Escondido	4-Lane Major Arterial	37,000	29,960	D	0.810
<i>Nordahl Road</i>						
6. SR-78 Ramps to Mission Road	Escondido	4-Lane Arterial	45,000	41,640	E	0.925
<i>Meyers Avenue</i>						
7. Barham Dr to Project Driveway	Escondido	2-Lane Collector (WP)	10,000	4,740	B	0.474

Source: Appendix J.

¹ Capacities based on City of San Marcos and City of Escondido roadway classification tables (See *Appendix B of Appendix J, TIA*).

ADT = Average Daily Traffic Volumes; LOS = Levels of Service; V/C = Volume to Capacity Ratio

Metered Freeway Ramps

The measure of effectiveness (MOE) for the metered freeway ramp analysis is delay in minutes. Ramp meter flows characteristically vary throughout the peak hour based on the performance of the freeway mainline. As the mainline becomes more congested, the ramp meter rates decline, allowing fewer vehicles onto the freeway in the same time period.

The metered on-ramps in the study area were analyzed using the Fixed Rate method. With the Fixed Rate method, using the most restrictive flow rate during the peak hour, the total discharge and delay (in minutes) are calculated and the corresponding queue lengths are calculated. The meter rates are dynamic, and fluctuate between the most conservative (restrictive) and most aggressive (permissive) intervals assigned to a metered ramp. The regional standard of practice is to use the longest, restrictive rates to ensure a conservative analysis.

3.15 Traffic and Circulation

Table 3.15-4 shows the classification of each project area roadway and the current operating conditions for the study area roadway segment. As shown in Table 3.15-4, an existing delay of greater than 15.0 minutes is calculated at the SR-78 Westbound On-Ramp from Rancheros Drive, during the AM and PM peak hours.

Table 3.15-4
Existing Caltrans Ramp Meter Analysis – Fixed Rate

Location	Peak Hour ¹	Existing						
		Volume		Peak Hour Demand (D) ²	Meter Rate (R) ³	Excess Demand E (veh)	Delay (min)	Queue (feet) ⁴
		SOV	HOV					
Rancheros Drive to SR-78 WB (1 SOV+ 1 HOV)	AM	529	93	529	343	186	>15.0	4,650
	PM	469	83	469	358	111	>15.0	2,775
Barham Drive to SR-78 EB (1 SOV + 1 HOV)	AM	275	49	275	644	0	0	0
	PM	677	120	677	608	69	6.8	1,725

Source: Appendix J.

SOV = Single Occupancy Vehicle, HOV = High Occupancy Vehicle; veh = vehicle

Notes: Lane utilization factor accounted for in peak hour demand calculation. (Assumed 15% for HOV).

¹ Selected peak hour based on period when ramp meter is operating.

² Peak hour demand in vehicles/hour/lane for SOV and HOV lanes.

³ Meter rate “R” is the most restrictive rate at which the ramp meter (signal) discharges traffic onto the freeway (obtained from Caltrans). The discharge rate varies depending on the mainline volumes.

⁴ Queue calculated assuming vehicle length of 25 feet.

Existing Bicycle and Pedestrian Access

Class II bicycle lanes, defined as one-lane facilities that are typically striped and adjacent to vehicle traffic traveling in the same direction (Caltrans 2017), currently exist in the project area. More specifically, these are provided within East Barham Drive from Woodland Parkway, east to the City’s boundary with Escondido, and just west of Meyers Avenue; along Mission Road, eastward from the boundary between the City and Escondido; along Nordahl Road, from SR-78 to the boundary between the City and Escondido; and along Auto Park Way. Class III bicycle facilities, defined as bike routes shared with motor traffic and not served by dedicated bikeways (Caltrans 2017), are located within East Barham Drive from Woodland Parkway, east to the City’s boundary with Escondido, and just west of Meyers Avenue. There are currently no sidewalks providing access to the site. Thus, pedestrian access to the site is limited under existing conditions.

Existing Transit Service

Transit service in the study area is provided by North County Transit District (NCTD), which operates the following services in the vicinity of the project site.

SPRINTER light rail connects Oceanside, Vista, San Marcos, and Escondido serving 15 stations along the SR-78 corridor. The nearest station to the project site is the Nordahl Road station, located south of Mission Road between Barham Drive and Auto Park Way/Nordahl Road, within 0.5 mile east of the project site. The SPRINTER runs every 30 minutes in each direction Monday through Friday, from approximately 4 AM to 9 PM. Saturday, Sunday, and holiday trains operate every 30 minutes between 10 AM and 6PM, and hourly before 10 AM and after 6 PM.

Route 305 serves Escondido to Vista via Mission Road and S. Santa Fe Avenue. Route 305 operates Monday through Friday, approximately between 4 AM to 11 PM. Saturday, Sunday, and holiday service runs approximately from 5 AM to 11 PM. The closest stop to the project site is located at the Nordahl Road SPRINTER station, approximately 0.5 miles east of the project site.

Route 353 serves the Escondido Transit Center and Nordahl Marketplace via Citracado Parkway. Route 353 operates weekdays, weekends, and holidays from approximately 6 AM to 8 PM. The closest stop to the project site is located at the Nordahl Road SPRINTER station, approximately 0.5 miles east of the project site.

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 Guidelines section 15063.4, which implements Senate Bill 743. SB 743 requires new metrics for analyzing transportation impacts under CEQA to provide an alternative to level of service (LOS). Measurements of transportation impacts may include vehicle miles traveled (VMT),³ 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.⁴ In

Lead agencies must transition to the new guidelines and thresholds for transportation impacts no later than July 1, 2020. At the time of preparation of this EIR, the City of San Marcos has yet to adopt VMT thresholds for CEQA and thus, LOS remains the official metric for identifying traffic impacts and mitigation for purposes of this EIR. Notwithstanding, potential transportation impacts using the standards established relating to CEQA Guidelines section 15063.4(b) are analyzed in Section 3.15.3, Threshold #2, of this EIR.

Local

SANDAG's San Diego Forward: The Regional Plan

The San Diego Association of Governments' (SANDAG) *San Diego Forward: The Regional Plan* (Regional Plan) combines the region's two most important existing planning documents—the Regional Comprehensive Plan (RCP) and the Regional Transportation Plan and its Sustainable Communities Strategy (RTP/SCS). The RCP, 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.

On April 25, 2015, SANDAG released the Draft Regional Plan for public comment, with a closing date of July 15, 2015. A Final Regional Plan was adopted by the SANDAG Board of Directors on October 9, 2015.

³ VMT refers to the amount and distance of automobile travel attributable to a project.

⁴ SB 743 also amends congestion management law to allow cities and counties to opt out of LOS standards within certain infill areas (Governor's Office of Planning and Research 2019).

Congestion Management Program (CMP)

The 2008 Congestion Management Program (CMP) 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 approved to opt out of the CMP requirements, as allowed within the Government Code. As such, there are no CMP-specific requirements associated with this project. However, to ensure the region's continued compliance with the federal congestion management process, SANDAG has prepared San Diego Forward: The Regional Plan 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 2005 Bikeway Master Plan 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 (BTA) 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 proposed project are identified below.

- **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 proposed project are identified below.

- **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.

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

3.15.3 Thresholds of Significance

Appendix G of the California Environmental Quality Act (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.

Based on the City of San Marcos and City of Escondido⁵ significant impact criteria and SANTEC/ITE TIS Guidelines, a project-related significant impact is forecast to occur if:

- Project-generated traffic would cause the LOS of a City of Escondido General Plan Mobility and Infrastructure Element roadway to fall below LOS D and/or add more than 200 ADT to a Mobility and Infrastructure Element roadway within an LOS E or F;
- Project-generated traffic results in a change in LOS from acceptable (LOS D or better) to deficient (LOS E or F) at a study area intersection or roadway segment;
- Project-related traffic results in an increase in delay of 2.0 seconds or more at a study area intersection operating at a deficient LOS (LOS E or F) or results in an increase in volume to capacity (V/C) ratio of 0.020 or more on a study area roadway segment operating at a deficient LOS (LOS E or F); or
- For impacts to freeway ramp meters, project-related traffic results in an increase of ramp meter delay of more than two minutes on ramp meters experiencing more than 15 minutes of delay without the project.

Analysis Methodology

The traffic study included in Appendix J was prepared in accordance with SANTEC/ITE TIS guidelines as well as City of San Marcos and City of Escondido requirements. The analysis in this section is based on the following study scenarios:

- **Existing Conditions** – Analysis of existing traffic count volumes, intersection geometry and existing roadway network.
- **Existing Plus Project Conditions** – Analysis of existing traffic volumes overlaid with the forecast traffic generated by the proposed project. The existing intersection geometry and roadway network were used in this analysis.
- **Existing Plus Cumulative Projects Without Project** – Analysis of existing traffic volumes overlaid with traffic associated with projected cumulative projects. Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on research conducted for the cumulative condition and conversations with City and County staff,

⁵ Because various nearby intersections, roadway segments, and freeway meter ramps that were analyzed in the TIA (Appendix J) and this section are located within the City of Escondido, the City of Escondido's thresholds of significance were used to determine impacts at these locations.

three City of Escondido projects, three County of San Diego projects, and six City of San Marcos projects were identified for inclusion in the near-term cumulative analysis.

- **Existing Plus Cumulative Projects Plus Project** – Analysis of existing traffic volumes overlaid with cumulative projections described above, and traffic generated by the proposed project.
- **Year 2035 Without Project** – Analysis of Year 2035 conditions, using baseline traffic volumes taken from various recent traffic studies prepared in the City. Based on these reports, LLG used the SANDAG Series 12⁶ Year 2035 model to forecast Year 2035 traffic volumes in the study area.
- **Year 2035 With Project** – Analysis of Year 2035 baseline traffic volumes overlaid by traffic generated by the proposed project.

Project access is proposed via an east-west driveway to Meyers Avenue, with additional access via a north-south driveway to Barham Drive. This Barham intersection is proposed to be restricted to right-in/right-out only movements with the physical design of the intersection curb returns, and is expected to serve only a small amount of project traffic. To be conservative, 100% of project traffic volumes are assumed to use the access to Meyers Avenue in this analysis.

3.15.4 Project Impact Analysis

Threshold #1. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

As identified above, the proposed project is analyzed in terms of the established LOS thresholds and delay increases based on the City of San Marcos' and the City of Escondido's significant impact criteria (depending on the jurisdiction of each intersection) and SANTEC/ITE TIS.

As discussed in Section 2.2.2.3, construction of the proposed project would require approximately 78,800 cubic yards of cut and fill to be balanced on site. It was conservatively assumed that 10,000 cubic yards of soil would be exported off site in trucks with a capacity of 16 cubic yards; thus, 625 trips were assumed. It was also assumed that 1,000 cubic yards of vegetation and soil from site clearing would be exported in trucks with a capacity of 8 cubic yards; therefore, 125 trips were assumed. As shown in the TIA and analysis below, most roads have daily traffic trips exceeding 12,000 trips under Existing Conditions (see Table 3.15-3). As such, the increase of traffic associated with construction of the project would be minimal. Further, construction would be temporary and would last approximately 21 months. As such, the analysis focuses on operational trips.

⁶ While the Series 13 model does exist, it assumes a substantial increase in the share of walk/bike/transit trips and often forecasts volumes that are less than existing counts. The use of Series 12 presents a conservative estimate and is therefore used in this analysis.

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. A SANDAG Select Zone Assignment was used to establish the regional cordons and distribution.

There are numerous opportunities in the project vicinity to access SR-78. Existing local traffic patterns and commercial GIS software were utilized (adjusted to reflect peak commute congestion) to determine the local traffic distribution of each freeway on/off-ramp location and the local arterials.

While a modest number of project-related trips would use the right-in/right-out project driveway to Barham Drive, 100% of site traffic was conservatively assumed to use Meyers Avenue to provide a worst-case analysis.

Project Trip Generation

To determine the traffic generation of the proposed project, SANDAG's Not so Brief Guide to Vehicular Traffic Generation Rates for San Diego Region⁷ rates were applied to the proposed project. Table 3.15-5 presents the trip generation rates and forecasted project-generated trips. As shown in Table 3.15-5, the proposed project would generate approximately 1,536 ADT, including 123 AM peak hour trips (25 inbound and 98 outbound) and 154 PM peak hour trips (108 inbound and 46 outbound). Traffic generated from the proposed project is shown on Figure 3.15-3. A 5% traffic reduction for transit was considered, based on the project's proximity to the high-quality, multi-modal Nordahl Station and the Class I⁸ Inland Rail Trail bikeway. However, the distance between the transit station and the project site slightly exceeds the ¼-mile prescribed by the SANDAG guidelines; thus, the transit reduction was not applied to the analysis. Note, when comparing the proposed project to potential buildout of the existing City General Plan land use designation, the project would generate in approximately 867 fewer ADT. Refer to Section 7.0 of Appendix J for additional details.

⁷ https://www.sandag.org/uploads/publicationid/publicationid_1140_5044.pdf

⁸ Class I bikeways are defined as facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized.

Table 3.15-5
Trip Generation Rates for Proposed Land Uses

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	% of ADT	In: Out	Volume			% of ADT	In: Out	Volume		
					Split	In	Out	Total		Split	In	Out	Total
Condominium	192 DU	8/ DU	1,536	8%	2:8	25	98	123	10%	7:3	108	46	154

Source: Appendix J.

Note: The trip rates for the proposed uses are based on SANDAG's *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002* (SANDAG 2002).

Existing Plus Project Conditions

The following section presents the analysis of existing study area locations with the addition of project traffic. The scenario is hypothetical because it assumes that the proposed project would be fully built out immediately and the corresponding full buildout traffic volumes added to existing roadway volumes and infrastructure. Thus, the existing plus project analysis presumes that the existing environment (existing traffic volumes, existing roadway infrastructure, and existing land uses) will not change. The results of this analysis are presented below for disclosure purposes. The identification of the proposed project's significant impacts, with recommended mitigation, is based on the future year analyses that take into account cumulative traffic growth, as well as the changing roadway network and land uses.

To determine the Existing Plus Project operating conditions in the project study area, forecast project-related trips were added to the existing conditions volumes outlined in Tables 3.15-2, 3.15-3, and 3.15-4. Existing plus project traffic volumes are shown on Figure 3.15-4.

Intersection Analysis

Table 3.15-6 summarizes the Existing Plus Project AM and PM peak hour intersection LOS for the study area intersections and identifies the change in delay from existing conditions. It is assumed that the Barham Drive and Meyers Avenue intersection will be signalized prior to the development of the proposed project. However, if this intersection is not signalized prior to development of the project, the project would install a traffic signal at this location. Also, while a modest number of project-related trips would use the right-in/right-out project driveway to Barham Drive, 100% of site traffic was conservatively assumed to use Meyers Avenue to provide a worst-case analysis.

3.15 Traffic and Circulation

As shown in Table 3.15-6, the addition of project-related traffic to existing traffic volumes the following intersections are calculated to operate at unacceptable LOS based on their respective jurisdiction's criteria, which would result in potentially significant impacts. Refer to Section 3.15.6 for mitigation.

- **Impact TR-1:** Intersection #2. Rancheros Drive / SR-78 WB Ramps – LOS F in the AM/PM peak hours (*Caltrans*)
- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue – LOS F in the AM/PM peak hours (*Escondido*)
- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road – LOS D/E in the AM/PM peak hours (*Escondido*)

Roadway Segment Analysis

Table 3.15-7 summarizes the daily operations of the study area roadway segments under Existing Plus Project conditions. As shown in Table 3.15-7, with the addition of project-related traffic, the following roadway segments are expected to operate at an unacceptable LOS on a daily basis:

- Segment #1. Rancheros Drive from SR-78 Ramps to Woodland Parkway – LOS F (*San Marcos*)
- **Impact TR-4:** Segment #3. Barham Drive from SR-78 EB On-Ramp to Meyers Avenue – LOS E (*San Marcos/Escondido*)
- **Impact TR-5:** Segment #4. Barham Drive from Meyers Avenue to Mission Road – LOS E (*Escondido*)
- Segment #5. Mission Road from Barham Drive to Nordahl Road – LOS D (*Escondido*)
- Segment #6. Nordahl Road from SR-78 to Mission Road – LOS E (*Escondido*)

However, because the increase in V/C ratio at this roadway segment would be less than the significance threshold maximum of 0.02, impacts at the segments of Rancheros Drive, Mission Road, and Nordahl Road would be less than significant. Nonetheless, because the addition of project-related traffic to existing roadway volumes would result in an exceedance in V/C ratio above the significance threshold of 0.02 at the roadway segments of Barham Drive, from SR-78 EB On-Ramp to Meyers Avenue, and from Meyers Avenue to Mission Road, the proposed project would result in a significant impact at this roadway segment. Refer to Section 3.15.6 for mitigation.

Table 3.15-6
Near-Term Intersection Operations

#	Intersection	Jurisdiction	Control Type	Peak Hour	Existing		Existing Plus Project			Existing Plus Cumulative		Existing Plus Cumulative Plus Project			Impact?
					Delay ^a	LOS ^b	Delay	LOS	Δ ^c	Delay	LOS	Delay	LOS	Δ	
1	Barham Dr / SR-78 EB Off-Ramp	Caltrans	Signal	AM	25.9	C	27.5	C	1.6	27.5	C	29.4	C	1.9	No
				PM	14.7	B	17.6	B	2.9	16.9	B	20.5	B	3.6	
2	Rancheros Dr / SR-78 WB Ramps	Caltrans	AWSC ^d	AM	61.5	F	71.1	F	9.6	63.6	F	73.4	F	9.8	Yes
				PM	48.6	E	50.5	F	1.9	50.5	E	53.5	F	3.0	
3	Woodland Pkwy / Rancheros Dr	San Marcos	Signal	AM	29.1	C	31.1	C	2.0	29.7	C	31.7	C	2.0	No
				PM	24.1	C	24.6	C	0.5	24.9	C	25.2	C	0.3	
4	Barham Dr / Woodland Pkwy	San Marcos	Signal	AM	45.5	D	46.6	D	1.1	48.3	D	49.4	D	1.1	No
				PM	41.7	D	45.6	D	3.9	48.5	D	53.4	D	4.9	
5	Barham Dr / SR-78 EB On-Ramp	San Marcos	Signal	AM	7.1	A	8.2	A	1.1	7.3	A	8.8	A	1.5	No
				PM	32.7	C	36.8	D	4.1	35.2	C	38.9	D	3.7	
6	Barham Dr / Project Drwy ^e	San Marcos	MSSC ^f	AM	—	—	—	—	—	—	—	—	—	—	No
				PM	—	—	—	—	—	—	—	—	—	—	
7	Barham Dr / Meyers Ave	Escondido	MSSC	AM	>100.0	F	>100.0	F	>2.0	>100.0	F	>100.0	F	>2.0	Yes
				PM	>100.0	F	>100.0	F	>2.0	>100.0	F	>100.0	F	>2.0	
8	Barham Dr / Mission Rd	San Marcos	Signal	AM	27.9	C	29.4	C	1.5	30.4	C	32.0	C	1.6	No
				PM	31.9	C	36.5	D	4.6	35.0	C	40.3	D	5.3	
9	Mission Rd / Nordahl Rd	Escondido	Signal	AM	39.2	D	39.4	D	0.2	44.5	D	44.9	D	0.4	Yes
				PM	52.1	D	56.3	E	4.2	57.9	E	60.6	E	2.7	
10	Nordahl Rd / SR-78 EB Ramps	Caltrans	Signal	AM	25.1	C	25.2	C	0.1	35.7	D	36.4	D	0.7	No
				PM	39.1	D	39.1	D	0.0	53.7	D	53.7	D	0.0	

Table 3.15-6
Near-Term Intersection Operations

#	Intersection	Jurisdiction	Control Type	Peak Hour	Existing		Existing Plus Project			Existing Plus Cumulative		Existing Plus Cumulative Plus Project			Impact?
					Delay ^a	LOS ^b	Delay	LOS	Δ^c	Delay	LOS	Delay	LOS	Δ	
11	Nordahl Rd / SR-78 WB Ramps	Caltrans	Signal	AM	23.4	C	23.5	C	0.1	27.1	C	27.2	C	0.1	No
				PM	33.4	C	33.9	C	0.5	38.4	D	39.8	D	1.4	
12	Meyers Avenue / Project Driveway	Escondido	MSSC	AM	—	—	15.6	C	—	—	—	15.6	C	—	No
				PM	—	—	12.5	B	—	—	—	12.5	B	—	

Footnotes:

- a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. AWSC – All-Way Stop Controlled intersection.
e. The Project driveway at Barham Drive is a right-in/right-out access. 100% of project traffic was conservatively analyzed at the main driveway to Meyers Avenue (intersection No. 12).
f. MSSC – Minor street Stop Controlled intersection. Minor street left turn delay is reported.

SIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

UNSIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

General Notes:

1. **BOLD** typeface indicates a potentially significant impact.

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Table 3.15-7
Near-Term Street Segment Operations

Street Segment	Juris.	Capacity ^a	Existing			Existing Plus Project				Existing Plus Cumulative Projects			Existing Plus Cumulative Projects Plus Project				Impact?
			ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C	Δ ^e	ADT	LOS	V/C	ADT	LOS	V/C	Δ	
Rancheros Drive																	
1. SR-78 Ramps to Woodland Pkwy	San Marcos	15,000	21,140	F	1.409	21,371	F	1.425	0.016	21,362	F	1.424	21,593	F	1,440	0.016	No
Barham Drive																	
2. Woodland Pkwy to SR-78 EB On-Ramp	San Marcos	30,000	17,500	C	0.583	18,130	C	0.604	0.021	17,920	C	0.597	18,550	C	0.618	0.021	No
3. SR-78 EB On-Ramp to Meyers Ave	San Marcos/Escondido	15,000	12,990	D	0.866	13,912	E	0.927	0.061	13,255	D	0.884	14,177	E	0.945	0.061	Yes
4. Meyers Ave to Mission Rd	Escondido	10,000	8,610	D	0.861	9,210	E	0.921	0.060	8,875	D	0.888	9,475	E	0.948	0.060	Yes
Mission Road																	
5. Barham Dr to Nordahl Rd	Escondido	37,000	29,960	D	0.810	30,590	D	0.827	0.017	31,196	D	0.843	31,826	D	0.860	0.017	No
Nordahl Road																	
6. SR-78 Ramps to Mission Road	Escondido	43,500	41,640	E	0.957	42,040	E	0.966	0.009	48,973	F	1.126	49,373	F	1.135	0.009	No
Meyers Avenue																	
7. Barham Dr to Project Driveway	Escondido	10,000	4,740	B	0.474	6,253	C	0.625	0.151	4,778	B	0.478	6,291	C	0.629	0.151	No

Footnotes:

- ^a Capacities based on the City of San Marcos and City of Escondido roadway classification tables (See Appendix J).
- ^b Average Daily Traffic
- ^c Level of Service
- ^d Volume to Capacity ratio
- ^e Project Attributable increase in V/C.

General Notes:

- ¹ **BOLD** typeface indicates a potentially significant impact.

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Freeway Ramp Meter Operations

Table 3.15-8 summarizes the ramp meter analysis for the Existing Plus Project conditions. As shown this table, the addition of project-related traffic to existing traffic volumes would result in the ramp meter at Rancheros Drive to SR-78 (Westbound) to operate at unacceptable levels, and result in a delay of greater than 15 minutes. As such, because the project-related increase in delay at this ramp meter exceeds two minutes during the AM peak hour, a significant impact to freeway ramp meters would occur at this location (Impact TR-6). Refer to Section 3.15.6 for mitigation.

- **Impact TR-6:** Rancheros Drive to SR-78 WB – AM peak hours

Table 3.15-8
Existing Plus Project Ramp Meter Analysis – Fixed Rate

Location	Peak Hour ¹	Near-Term						
		Volume		Peak Hour Demand (D) ²	Meter Rate (R) ³	Excess Demand (E) (veh)	Delay (min)	Queue (ft) ⁴
		SOV	HOV					
Rancheros Drive to SR-78 WB (1 SOV + 1 HOV)								
Existing	AM	529	93	529	343	186	>15.0	4,650
Existing Plus Project	AM	551	97	551	343	208	>15.0	5,200
Project Increase	AM	22	4	22	--	22	3.9	550
Existing	PM	469	83	469	358	111	>15.0	2,775
Existing Plus Project	PM	479	85	479	358	121	>15.0	3,025
Project Increase	PM	10	2	10	--	10	1.7	250
Barham Drive to SR-78 EB (1 SOV + 1 HOV)								
Existing	AM	275	49	275	644	0	0	0
Existing Plus Project	AM	303	54	303	644	0	0	0
Project Increase	AM	28	5	28	--	0	0	0
Existing	PM	677	120	677	608	69	6.8	1,725
Existing Plus Project	PM	690	122	690	608	82	8.1	2,050
Project Increase	PM	13	2	13	--	13	1.3	325

Source: Appendix J.

Notes:

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle

Lane utilization factor accounted for in peak hour demand calculation. (Assumed 15% for HOV).

Potentially significant impacts are indicated in **bold**.

¹ Selected peak hour based on period when ramp meter is operating.

² Peak hour demand in vehicles/hour/lane for SOV and HOV lanes.

³ Meter rate “R” is the most restrictive rate at which the ramp meter (signal) discharges traffic onto the freeway (obtained from Caltrans). The discharge rate varies during the peak hour depending on the mainline volumes.

⁴ Queue calculated assuming vehicle length of 25 feet.

Existing Plus Cumulative Conditions

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on research conducted for the cumulative condition and conversations with City and County staff, three City of Escondido projects, three County of San Diego projects, and seven City of San Marcos projects were identified for inclusion in the near-term cumulative analysis. Existing plus cumulative plus project traffic volumes are shown in Figure 3.15-5.

City of Escondido

1. **Escondido Research and Technology Center (ERTC) Medical Office** is a 74,400 SF medical office building proposed along Citracado Parkway with the ERTC SPA.
2. **Stone Brewery Hotel** proposes to construct a 44-room boutique hotel opposing the existing Stone Brewing World Bistro and Gardens. The project is located along Citracado Parkway within the ERTC SPA.
3. **Pacific Harmony Grove** proposes to construct a combined corporate headquarters and warehouse/distribution center for the Stone Brewing Company, consisting of two buildings. The project is located south of Harmony Grove Road, east of the Harmony Grove Road / Kauana Loa Drive intersection.

County of San Diego

1. **Harmony Grove Village** is a residential project located north of Harmony Grove Road and bound by Country Club Drive and Wilgen Road. The County General Plan Amendment project includes the development of 710 residential single-family units, 32 live/work lofts with 16,500 square-feet of retail, a 25,000-square foot village core, an equestrian park, public and private parks, an institutional site (assumed to be a tack and feed store), and a fire station. The project is currently under construction with approximately 15% of the homes completed and either sold or selling. The trips generated by the completed portion of the project are represented in the existing traffic count data. The remaining 85% of trips were assumed in the near-term cumulative condition. Roadway improvements completed with the project include the new roadway of Harmony Grove Village Parkway, connecting Country Club Drive in the west to Harmony Grove Road and Citracado Parkway/Avenida Del Diablo in the east. Additional network improvements to Harmony Grove Road south of the proposed Project site have also been completed. Based on information from the Harmony Grove Village sales office as of February 2019, 450 homes have been built and are either occupied or for sale. Therefore, the remaining 39% of Harmony Grove Village traffic (742 homes – 450 homes = 292 homes remaining, or 39%) were added into the cumulative condition.
2. **Valiano** is a 334-unit residential development located west of Country Club Drive and south of Hill Valley Road in the County of San Diego, adjacent to the cities of San Marcos and Escondido. This County General Plan Amendment project was approved by the Board of Supervisors.

3. **Harmony Grove Village South** is 453-unit residential development located on 111 acres located east of Country Club Drive and south of Harmony Grove Road in the San Dieguito Planning Community of the County of San Diego. This County General Plan Amendment project was approved by the Board of Supervisors.

City of San Marcos

1. **Montiel Road Partners** is a 9-lot subdivision approved to develop 8 single-family homes located on Montiel Road.
2. **Sandy Lane Estates** is a 9-lot subdivision proposing the development of 8 single-family homes located on Sandy Lane.
3. **JR Legacy II, LLC/Global Carte** is an approved 6-story, 128-room hotel with amenities including a café, fitness center, and pool for guests. The project is located on Montiel Road with access via Leora Lane.
4. **Mission 24** is an approved residential project that will build 24 condominium units located at Mission Road and Avenida Chapala.
5. **Mesa Rim Climbing Gym** is a 28,000 SF recreational climbing gym to be located at 285 Industrial Street.
6. **Montiel Commercial** is a proposed 32,971 SF office development located at 2355/2357 Montiel Road.
7. **University District Block K** is a 68-unit residential housing project consisting of condos, townhomes, and flats, on an approximately 0.52-acre parcel within the larger University District. The project is located on the east side of Campus Way approximately 200 feet south of Carmel Street.

Intersection Analysis

Table 3.15-6 summarizes the LOS analysis results for the study area intersections under Existing Plus Cumulative conditions without and with the proposed project. As shown in Table 3.15-6, under Existing Plus Cumulative Plus Project conditions, all study area intersections are forecast to operate at acceptable LOS, based on their jurisdiction, except for the following:

- **Impact TR-1:** Intersection #2. Rancheros Drive / SR-78 WB Ramps – LOS F in the AM/PM peak hours (*Caltrans*)
- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue – LOS F in the AM/PM peak hours (*Escondido*)
- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road – LOS E in the PM peak hours (*Escondido*)

3.15 Traffic and Circulation

The forecasted increase in delay at all four intersections would exceed the significance threshold maximum of 2.0 seconds. Therefore, the proposed project would result in a significant impact at these four intersections under cumulative conditions (Impacts TR-1 through TR-3). Refer to Section 3.15.6 for mitigation.

Roadway Segment Analysis

Table 3.15-7 summarizes the daily operations of the study area roadway segments under Existing Plus Cumulative conditions without and with the proposed project. As shown in Table 3.15-7, under Existing Plus Cumulative Plus Project conditions, the following roadway segments would operate at an unacceptable LOS:

- Segment #1. Rancheros Drive from SR-78 Ramps to Woodland Parkway – LOS F (*San Marcos*)
- **Impact TR-4:** Segment #3. Barham Drive from SR-78 EB On-Ramp to Meyers Avenue – LOS E (*San Marcos/Escondido*)
- **Impact TR-5:** Segment #4. Barham Drive from Meyers Avenue to Mission Road – LOS E (*Escondido*)
- Segment #5. Mission Road from Barham Drive to Nordahl Road – LOS D (*Escondido*)
- Segment #6. Nordahl Road from SR-78 to Mission Road – LOS F (*Escondido*)

However, because the increase in V/C ratio at Segments #1, #5, and #6 would be less than the significance threshold maximum of 0.02, impacts at this location would be less than significant. At Segments #3 and #4, the addition of project-related traffic would result in an increase in V/C ratio above the significance threshold of 0.02. Therefore, the proposed project would result in a significant impact (Impacts TR-4 and TR-5). Refer to Section 3.15.6 for mitigation.

Freeway Ramp Meter Operations

Table 3.15-9 summarizes the ramp meter analysis for Existing Plus Cumulative Projects Plus Project conditions. As shown in Table 3.15-9, with the addition of cumulative traffic and traffic associated with the proposed project to existing conditions, the ramp meter location at Rancheros Drive to SR-78 Westbound would operate at unacceptable levels during the AM peak hour, and result in a delay greater than 15 minutes. The forecasted increase in delay at this freeway ramp meter would exceed the significance threshold maximum of 2.0 minutes. Therefore, the proposed project would result in a significant impact at this freeway ramp location (Impact TR-6). Refer to Section 3.15.6 for mitigation.

- **Impact TR-6:** Rancheros Drive to SR-78 WB – AM peak hour

Table 3.15-9
Existing Plus Cumulative With and Without Project Ramp Meter Analysis – Fixed Rate

Location	Peak Hour ¹	Near-Term						
		Volume		Peak Hour Demand (D) ²	Meter Rate (R) ³	Excess Demand (E) (veh)	Delay (min)	Queue (ft) ⁴
		SOV	HOV					
Rancheros Drive to SR-78 (1 SOV + 1 HOV)								
Existing Plus Cumulative Projects	AM	532	94	532	343	189	>15.0	4,725
Existing Plus Cumulative Projects Plus Project	AM	554	98	554	343	211	>15.0	5,275
Project Increase	AM	22	4	22	--	22	3.8	550
Existing Plus Cumulative Projects	PM	471	83	471	358	113	>15.0	2,825
Existing Plus Cumulative Projects Plus Project	PM	481	85	481	358	123	>15.0	3,075
Project Increase	PM	10	2	10	--	10	1.7	250
East Barham Drive to SR 78 EB (1 SOV + 1 HOV)								
Existing Plus Cumulative Projects	AM	290	51	290	644	0	0	0
Existing Plus Cumulative Projects Plus Project	AM	318	56	318	644	0	0	0
Project Increase	AM	28	5	28	--	0	0	0
Existing Plus Cumulative Projects	PM	693	122	693	608	85	8.4	2,125
Existing Plus Cumulative Projects Plus Project	PM	706	125	706	608	98	9.7	2,450
Project Increase	PM	13	3	13	--	13	1.3	325

Source: Appendix J.

Notes:

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle

3.15 Traffic and Circulation

Lane utilization factor accounted for in peak hour demand calculation. (Assumed 15% for HOV).

Potentially significant impacts are indicated in **bold**.

- ¹ Selected peak hour based on period when ramp meter is operating.
- ² Peak hour demand in vehicles/hour/lane for SOV and HOV lanes.
- ³ Meter rate “R” is the most restrictive rate at which the ramp meter (signal) discharges traffic onto the freeway (obtained from Caltrans). The discharge rate varies during the peak hour depending on the mainline volumes.
- ⁴ Queue calculated assuming vehicle length of 25 feet.

Year 2035 Conditions

Year 2035 Conditions daily traffic volumes were taken from several recent traffic studies prepared in the City that included buildout traffic volume assumptions. Based on these reports, LLG used the SANDAG Series 12 Year 2035 model to forecast Year 2035 traffic volumes in the study area. This model was adjusted to reflect the general plan amendment projects proposed in the County of San Diego (discussed above). Year 2035 with project traffic volumes are shown on Figure 3.15-6.

Year 2035 street segment ADTs were taken directly from the model, unless the model indicated a value less than existing, in which the ADT was manually increased by an appropriate amount to be consistent with growth at adjacent locations.

Peak hour turning movement volumes at study area intersections were estimated from future ADT volumes using the relationship between existing peak hour turning movements and the existing ADT volumes. However, due to substantial changes in future traffic patterns due to planned improvements including the realignment of the Barham Drive and SR-78 eastbound freeway ramps (see Appendix J for details), LLG first redistributed existing traffic volumes as if the future network changes were in place. These rerouted existing volumes were used only as a baseline for future volume forecasting, not in any analysis presented in the TIA and this section of the EIR. Further, while these improvements were conservatively not assumed in the near-term analysis, they were assumed in place in the long-term.

There are a series of improvements to the SR-78 freeway system in the vicinity of Woodland Parkway that are identified in the City of San Marcos’ Capital Improvement Program (CIP) as the “Woodland Parkway Highway 78 Interchange” project (CIP project code no. 88005). These improvements would directly improve substandard locations in the study area. The following is a discussion of these improvements, organized by corridor.

Rancheros Drive Corridor: widen Rancheros Drive to four-lane major street standards from the SR-78 Westbound Ramps to Woodland Parkway, including Class II bike lanes. Signalize the Rancheros Drive/SR-78 Westbound Ramps intersection. Provide dual westbound-to-southbound left-turn lanes from Rancheros Drive to the SR-78 westbound on-ramp. Widen the SR-78 westbound on-ramp from Rancheros Drive to include two SOV and one HOV lanes. Widen the SR-78 westbound off-ramp to Rancheros Drive to include one left-turn lane and two right-turn lanes.

3.15 Traffic and Circulation

Woodland Parkway Corridor: widen the Woodland Parkway undercrossing at SR-78 from Rancheros Drive to Barham Drive to four-lane major street standards. Provide two-travel lanes in each direction, with back-to-back left-turn lanes at both Barham Drive and Rancheros Drive. Provide Class II bike lanes.

Barham Drive Corridor: realign Barham Drive from west of Warplex Avenue to Woodland Parkway to provide a six -lane prime arterial transitioning to a four-lane major street east of Woodland Parkway. Widen and realign the existing SR-78 eastbound off-ramp to include two left-turn lanes and one right-turn lane. Construct a new SR-78 eastbound on-ramp from E. Barham Drive to include two SOV and one HOV lanes. Install a traffic signal at the realigned E. Barham Drive/ SR-78 eastbound ramps intersection. Remove the existing on-ramp to eastbound SR-78 located east of La Moree Road, and the associated signalized intersection.

SR-78 Freeway: widen and improve SR-78 to an 8-lane facility with two managed lanes in the median. Provide necessary on-ramp and off-ramp transitions, acceleration lanes and trap lanes, as required to provide the improvements listed above.

These improvements will be developed in phases, although the timing of delivery of these improvements is unknown. While these improvements were conservatively not assumed in the near-term analysis, they were assumed in place in the long-term.

Additionally, the standard of practice within the City of Escondido is to assume buildout of the street system to its ultimate general plan conditions. For the purposes of this EIR, that entails the improvement of the City of Escondido portions of Barham Drive from a two-lane collector to a four-lane major roadway. The remainder of the study area falling within the jurisdiction of the City of Escondido is generally built to its ultimate capacity under existing conditions.

The above-listed improvements are assumed in the baseline conditions for Year 2035 analysis of study area intersections and street segments.

Intersection Analysis

The results of the Year 2035 intersection LOS analysis without and with the proposed project are summarized in Table 3.15-10. As shown in Table 3.15-10, the following intersections is calculated to operate at unacceptable LOS under Year 2035 with Project conditions based on their respective jurisdiction criteria:

- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue – LOS F during the AM/PM peak hours (*Escondido*)
- **Impact TR-7:** Intersection #8. Barham Drive / Mission Road – LOS E/F during the AM/PM peak hours (*San Marcos*)

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- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road – LOS E/F during the AM/PM peak hour (*Escondido*)
- Intersection #10. Nordahl Road / SR-78 EB Ramps – LOS E during the PM peak hour (*Escondido*)

Because the addition of project-related traffic to Year 2035 conditions traffic volumes at intersections #7, #8, and #9 result in an increase in delay that exceeds the significance threshold of 2.0 seconds, the project would result in a significant impact at these intersections (Impacts TR-2, TR-3, and TR-7). Refer to Section 3.15.6 for mitigation.

Table 3.15-10
Year 2035 Intersection Operations Without and With Project

#	Intersection	Jurisdiction	Control Type	Peak Hour	Year 2035		Year 2035 With Project		Change in Delay	Significant?
					Delay ¹	LOS	Delay ¹	LOS		
1	Barham Drive / SR-78 Eastbound Off Ramp	Caltrans	Signal	AM	22.3	C	22.6	C	0.3	No
				PM	31.3	C	33.3	C	2.0	No
2	Rancheros Drive / SR-78 Westbound Ramps	Caltrans	Signal	AM	14.4	B	14.8	B	0.4	No
				PM	18.7	B	19.0	B	0.3	No
3	Woodland Parkway / Rancheros Drive	San Marcos	Signal	AM	38.2	D	40.4	D	2.2	No
				PM	26.8	C	27.3	C	0.5	No
4	Barham Drive / Woodland Pkwy	San Marcos	Signal	AM	24.0	C	25.7	C	1.7	No
				PM	33.4	C	35.9	D	2.5	No
5	East Barham Drive / SR-78 Eastbound On-Ramp	San Marcos	DNE	AM	--	--	--	--	--	DNE
				PM	--	--	--	--	--	DNE
6	Barham Drive / Project Driveway	San Marcos	MSSC	AM	--	--	--	--	--	No
				PM	--	--	--	--	--	No
7	Barham Drive / Meyers Ave	Escondido	MSSC	AM	>100.0	F	>100.0	F	>2.0	Yes
				PM	>100.0	F	>100.0	F	>2.0	Yes
8	Barham Drive / Mission Road	San Marcos	Signal	AM	59.5	E	64.6	E	5.1	Yes
				PM	86.9	F	97.9	F	11.0	Yes

Table 3.15-10
Year 2035 Intersection Operations Without and With Project

#	Intersection	Jurisdiction	Control Type	Peak Hour	Year 2035		Year 2035 With Project		Change in Delay	Significant?
					Delay ¹	LOS	Delay ¹	LOS		
9	Mission Road / Auto Park Way / Nordahl Road	Escondido	Signal	AM	54.4	D	56.8	E	2.4	Yes
				PM	75.3	E	86.0	F	9.5	Yes
10	Nordahl Road / SR-78 Eastbound Ramps	Caltrans	Signal	AM	44.1	D	47.6	D	3.5	No
				PM	74.2	E	75.6	E	1.4	No
11	Nordahl Road / SR-78 Westbound Ramps	Caltrans	Signal	AM	32.3	C	32.3	C	0.0	No
				PM	44.4	D	46.6	D	2.2	No
12	Meyers Avenue / Project Driveway	Escondido	MSSC	AM	—	—	16.5	C	—	No
				PM	—	—	12.8	B	—	No

Source: Appendix J.

Notes:

LOS = Level of Service; AWSC – All-Way Stop Controlled intersection; MSSC = minor-street stop-controlled intersection. Potentially significant impacts are indicated in **bold**.

¹ Average delay expressed in seconds per vehicle.

Roadway Segment Analysis

Table 3.15-11 summarizes the daily operations of the study area roadway segments under Year 2035 conditions without and with the proposed project. As shown in Table 3.15-11, the following roadway segments would operate at unacceptable LOS based on their respective jurisdiction criteria:

- Segment #1. Rancheros Drive from SR-78 Ramps to Woodland Parkway – LOS F (*San Marcos*)
- Segment #5. W. Mission Road from Barham Drive to Nordahl Road – LOS F (*Escondido*)
- Segment #6. Nordahl Road from SR-78 Ramps to Mission Road – LOS F (*Escondido*)

No significant impacts to segments #1, #5 and #6 would occur, as the project-related increase in the V/C ratio is less than or equal to the significance threshold maximum of 0.02.

Table 3.15-11
Year 2035 Street Segment Operations Without and With Project

Street Segment	Jurisdiction	Proposed Classification	Capacity	Year 2035 Without Project			Year 2035 Plus Project			Change in V/C	Significant?
				ADT	LOS	V/C	ADT	LOS	V/C		
Rancheros Drive											
1. SR-78 WB Ramps to Woodland Parkway	San Marcos	2-Lane Collector	15,000	22,200	F	1.480	22,431	F	1.232	0.015	No
Barham Drive											
2. Woodland Parkway to SR-78 EB On-Ramp	San Marcos	4-Lane Arterial ¹	40,000	18,380	B	0.460	19,010	B	0.475	0.015	No
3. SR-78 EB On-Ramp to Meyers Avenue	San Marcos/Escondido	4-Lane Collector ¹	34,200	15,600	B	0.456	16,230	B	0.475	0.019	No
4. Meyers Ave to Mission Rd	Escondido	4-Lane Collector ¹	34,200	15,800	B	0.462	16,691	B	0.488	0.026	No
Mission Road											
5. Barham Drive to Nordahl Road	Escondido	4-Lane Major	37,000	38,200	F	1.032	38,938	F	1.052	0.020	No
Nordahl Road											
6. SR-78 Ramps to Mission Road	Escondido	5-Lane Major	43,500	43,800	F	1.007	44,446	F	1.022	0.015	No
Meyers Avenue											
7. Barham Dr to Project Driveway	Escondido	2-Lane Collector	10,000	4,980	B	0.498	6,493	C	0.649	0.151	No

Source: Appendix J.

ADT = Average Daily Traffic Volumes; LOS = Levels of Service; V/C = Volume to Capacity Ratio

Notes:

Capacities based on the City of San Marcos and City of Escondido roadway classification tables (See Appendix B of Appendix J, TIA).

¹ These proposed classifications would result in a capacity increase over existing to buildout conditions per the City's Mobility Element classification.

Freeway Ramp Metering Analysis

Table 3.15-12 summarizes the results of the freeway ramp meter analysis for the Year 2035 conditions. As shown in Table 3.15-12, all study area ramp meter locations would operate at acceptable levels under Year 2035 Plus Project conditions. Thus, impacts would be less than significant.

Transit, Bicycle, and Pedestrian Facilities

The City of San Marcos General Plan identifies goals and policies to manage transportation and traffic demand as the City continues to grow. Section 3.10.4 of this EIR identifies the policies applicable to the proposed project and how the project maintains consistency with these policies. As described in this section, the proposed project is consistent with the applicable transportation and traffic related goals and policies. For instance, the proposed project would implement the City's General Plan Mobility Element goals, through increasing the density of the project site compared to the existing General Plan designation, which is expected to increase ridership and viability of the nearby transit system. The proposed project would also incorporate roadways that would provide for the safe movement of bicycle and pedestrians. Therefore, as outlined in Section 3.10.4, the proposed project is consistent with the long-term growth strategy of the City as it relates to transportation and traffic. Impacts would be less than significant.

Table 3.15-12
Year 2035 With and Without Project Ramp Meter Analysis – Fixed Rate

Location	Peak Hour ¹	Year 2035						
		Volume		Peak Hour Demand (D) ²	Meter Rate (R) ³	Excess Demand (E) (veh)	Delay (min)	Queue (ft) ⁴
		SOV	HOV					
Rancheros Drive to SR-78 (1 SOV + 1 HOV)								
Year 2035	AM	659	116	329	343	0	0	0
Year 2035 Plus Project	AM	681	120	341	343	0	0	0
Project Increase	AM	22	4	12	--	0	0	0
Year 2035	PM	582	103	291	358	0	0	0
Year 2035 Plus Project	PM	592	105	296	358	0	0	0
Project Increase	PM	10	2	5	--	0	0	0
Nordahl Road to SR-78 (2 SOV)								
Year 2035	AM	1,120	—	560	559	1	0.1	25
Year 2035 Plus Project	AM	1,156	—	578	559	19	2.0	475
Project Increase	AM	36	—	18	—	18	1.9	450
Year 2035	PM	1,760	—	889	715	165	13.8	4,125

Table 3.15-12
Year 2035 With and Without Project Ramp Meter Analysis – Fixed Rate

Location	Peak Hour ¹	Year 2035						
		Volume		Peak Hour Demand (D) ²	Meter Rate (R) ³	Excess Demand (E) (veh)	Delay (min)	Queue (ft) ⁴
		SOV	HOV					
Year 2035 Plus Project	PM	1,777	—	889	715	174	14.6	4,350
Project Increase	PM	17	—	9	—	9	0.8	225

Source: Appendix J.

Notes:

SOV = Single Occupancy Vehicle; HOV = High Occupancy Vehicle

Lane utilization factor accounted for in peak hour demand calculation. (Assumed 15% for HOV).

Potentially significant impacts are indicated in **bold**.

¹ Selected peak hour based on period when ramp meter is operating.

² Peak hour demand in vehicles/hour/lane for SOV and HOV lanes.

³ Meter rate "R" is the most restrictive rate at which the ramp meter (signal) discharges traffic onto the freeway (obtained from Caltrans). The discharge rate varies during the peak hour depending on the mainline volumes.

⁴ Queue calculated assuming vehicle length of 25 feet.

Threshold #2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Under CEQA Guidelines section 15063.4(b)(1), development projects within one-half mile 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 ...").

SANDAG's San Diego Forward: The Regional Plan includes tools and strategies to manage congestion, including specific projects that would implement the Plan's vision of providing mobility choices to support a sustainable, vibrant region. According to The Regional Plan, there are a number of multimodal transportation projects within the City of San Marcos aimed at reducing regional congestion (SANDAG 2015). These include:

- San Marcos shuttle
- Inland Rail Trail
- Encinitas-San Marcos Corridor – Double Peak Drive to San Marcos Boulevard
- Grand Avenue Bridge and street improvements
- South Santa Fe – Bosstick to Smilax realignment, signalization, and interchange improvements
- Woodland Parkway interchange improvements
- Discovery Street improvements
- Via Vera Cruz Bridge and street improvements

- Barham Drive street improvements and widening
- Creekside Drive construction
- Borden Road widening and improvements
- Palomar College, San Marcos Civic Center, Cal State San Marcos, and Nordahl Road SPRINTER Station retrofits
- Rancheros Drive/State Department of Rehabilitation retrofit

The Nordahl Road Sprinter and Breeze transit station is located approximately 0.3 miles from the E. Barham Drive entrance and approximately 0.4 miles from the Meyers Avenue entrance. While the proposed project does not include development of any of the projects identified in the Regional Plan, it does involve residential development in a transit-oriented area, and it would not preclude the development of any of these projects identified in the Regional Plan that would reduce regional congestion. Additionally, the project includes off-site pedestrian circulation improvements, which would increase safe access from the project site and surroundings to the Nordahl Road transit station. Therefore, the proposed project will be located within one-half mile of an existing major transit stop, would not conflict with SANDAG's plan, and thus impacts would be less than significant.

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)?

Access to the proposed project would be provided via a proposed off-site east-west driveway, Private Driveway "B," that would connect the site to Meyers Avenue. Proposed Private Driveway "B" would be located within the City of Escondido and would feature two 12-foot minimum travel lanes and varies in width. Private Driveway "A" features two 12-foot minimum travel lanes with an intermittent sidewalk. Access to the project site, provided by Driveway A, would be provided via a proposed north-south driveway, which would connect the site with Barham Drive to the north. This intersection is proposed to be restricted to right-in/right-out only movements with the physical design of the intersection curb returns, and is expected to serve only a small amount of project-related traffic. The prohibition of left-turns from the Barham Drive entrance would minimize potential hazard from drivers attempting left-turns at this future intersection. However, for a conservative analysis, 100% of the project's traffic volumes were assumed to use the Barham Drive/Meyers Avenue intersection. Currently, the intersection at Barham Drive and Meyers Avenue is unsignalized. However, this intersection would become signalized prior to development of the project. Further, proposed Private Driveway "C," an approximately 28-foot wide two-lane road (and approximately 44-foot wide street parking area), would loop through the site and connect back to Private Driveway "A." Lastly, the proposed project would include 24-foot wide alleys, featuring two 12-foot wide travel lanes, for residents to access their dwelling units. As discussed in the Specific Plan (Appendix B), the proposed entrance to the project site at Meyers Avenue would maintain

sight distance minimums and prevent obscured intersections. Further, the existing curve of Meyers Road would influence drivers to reduce their speeds along this roadway for drivers entering and exiting the project site.

The internal circulation network does not include any hazardous design features or proposed any incompatible uses. As described in EIR Section 2.2.2.2, the proposed project's circulation plan facilitates an interconnected mobility system for bicycles, pedestrians, and vehicles. The proposed provides residents with safe movement within the project site, secondary emergency access, connections to existing roadways within the vicinity of the project site, and access to regional arterial and highway networks and Sprinter/Breeze transit services. Private internal driveways and alleys have been designed to be a minimum of 24-feet in width from curb to curb. The proposed project includes three internal driveways and 19 private alleys to access multi-family buildings as well as connections to East Barham Drive and Meyers Avenue, which provide access to the project site (see Figure 2-8 for the conceptual circulation plan). Internal private driveways and alleys proposed within the project site are neighborhood streets designed to accommodate the level of traffic generated by the proposed project. Internal roadways are designed to provide the safe and quiet movement of bicycle, pedestrian, and vehicle traffic through the project site and to provide attractive frontages to residential lots. Lastly, all improved roadways would be designed in accordance with the City's roadway design standards to ensure proper safety requirements (City of San Marcos 2019). As such, because the proposed project would not include any hazardous design features or any incompatible uses, and because the project would be designed to provide safe movement throughout and around the project site, impacts would be less than significant.

Threshold #4: Would the project result in inadequate emergency access?

A Conceptual Wildland Fire Evacuation Plan (Evacuation Plan) was prepared for the proposed project and included in Appendix G3 of this EIR. The Evacuation Plan outlines procedures for evacuation, including an analysis of the proposed project's evacuation road network, determination of evacuation routes, and outlines evacuation procedures. As discussed in the Evacuation Plan, the proposed project's roads and adjacent road circulatory system would be consistent with other new communities in their ability to effectively handle ADTs generated by the proposed project.

As discussed in EIR Section 2.2.2.2, the California Fire Code, along with the San Marcos Fire Department, administers the rules and regulations on fire access design. The proposed project must present a design which affords fire and emergency responders suitable fire access roads dimensions and surfaces (Chapter 5, § 503.1 through 503.4 of the California Fire Code), an adequate number of emergency rated entrances to the community (Appendix D, §D106 of the California Fire Code), and entryway gate access for first responders (Chapter 5 of the California Fire Code, §503.6). Two points of entry have been identified for the project site and are designed to meet the design requirements codified in the California Fire Code. Both project site entrances meet the qualifications for emergency access to for the project site. The proposed private driveways have been designed to accommodate fire and emergency apparatus.

Therefore, with implementation of procedures outlined in the Evacuation Plan and compliance with the California Fire Code and San Marcos Fire Department requirements, the proposed project would not result in inadequate emergency access. Impacts would be less than significant.

3.15.5 Cumulative Impact Analysis

The preceding analysis of the proposed project in Section 3.15.4 is based on methodologies that incorporate the cumulative effects of traffic from forecasted growth within the project area. This cumulative conditions analysis reflects Year 2035 forecast volumes from the SANDAG Series 12 traffic model, compared to existing (Year 2018) volumes at each intersection and street segment within the project study area. Refer to Sections 3.15.6 and 3.15.7 for a discussion of mitigation and significance.

As identified in Section 3.15.4, traffic from the proposed project would result in the following near-term (under Existing Plus Cumulative Projects Plus Project conditions) cumulative impacts:

- **Impact TR-1:** Intersection #2. Rancheros Drive / SR-78 WB Ramps – LOS F in the AM/PM peak hours (*Caltrans*)
- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue – LOS F in the AM/PM peak hours (*Escondido*)
- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road – LOS E in the PM peak hours (*Escondido*)
- **Impact TR-4:** Segment #3. Barham Drive from SR-78 EB On-Ramp to Meyers Avenue – LOS E (*San Marcos/Escondido*)
- **Impact TR-5:** Segment #4. Barham Drive from Meyers Avenue to Mission Road – LOS E (*Escondido*)
- **Impact TR-6:** Rancheros Drive to SR-78 WB – AM peak hours (*Caltrans*)

As identified in Section 3.15.3, traffic from the proposed project would result in the following long-term (under Year 2035 conditions) cumulative impacts:

- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue – LOS F during the AM/PM peak hours (*Escondido*)
- **Impact TR-7:** Intersection #8. Barham Drive / Mission Road – LOS E/F during the AM/PM peak hours (*San Marcos*)
- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road – LOS E/F during the AM/PM peak hour (*Escondido*)

3.15.6 Mitigation Measures

The following mitigation measure would be required at Intersection #2, Rancheros Drive / SR-78 WB Ramps (Impact TR-1) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-1 Intersection #2. Rancheros Drive / SR-78 WB Ramps – Prior to the issuance of the first building permit, the project applicant shall pay the local and regional development fees assessed to address the impact to the City of San Marcos' Woodland Parkway/SR 78 Interchange Capital Improvement Project.

This capital improvement project proposes widening of Rancheros Drive at the SR-78 WB Ramps intersection, widening of the on-and-off ramps, construction of a second left-turn lane from Rancheros Drive to SR-78, and installs a traffic signal to control the intersection. The existing traffic conditions at this location are already substandard and warrant a traffic signal. Provision of the traffic signal alone would be sufficient to reduce the project's near-term direct and long-term cumulative impacts. The project's traffic generation is consistent with that of the existing land use zoning considered in the CIP; therefore, no additional payment is required based on the proposed zone change.

The following mitigation measure would be required at Intersection #7, Barham Drive / Meyers Avenue (Impact TR-2) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-2 Intersection #7. Barham Drive / Meyers Avenue – Prior to the issuance of the first permanent certificate of occupancy, the project applicant shall provide a traffic signal with a dedicated westbound left turn lane and protected left turn phasing on the westbound approach of Barham Drive towards Meyers Avenue at this intersection. The westbound left-turn pocket shall provide at least 100 feet of storage to accommodate queueing under buildout traffic conditions.

The following mitigation measure would be required at Intersection #9, Mission Road / Nordahl Road (Impact TR-3) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-3 Intersection #9. Mission Road / Nordahl Road – Prior to the issuance of the first permanent certificate of occupancy, the project applicant shall coordinate with the City of Escondido to facilitate the provision of transportation systems management (TSM) improvements such as signal retiming of the corridor or adaptive traffic signal control at this intersection.

The following mitigation measure would be required at Segment #3, Barham Drive from SR-78 EB On-Ramp to Meyers Avenue (Impact TR-4) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-4 Segment #3. Barham Drive: SR-78 EB On-Ramp to Meyers Avenue – Prior to the issuance of the first permanent certificate of occupancy, the project applicant shall provide half-width improvements along the south side of Barham Drive and sufficient widening along the north side of Barham Drive between the proposed project driveway and Meyers Avenue to achieve a 48-foot cross-section.

This would allow for a two-way left-turn (TWLTL) lane to be striped, which would enhance segment operations by allowing vehicles turning to the commercial properties to the north to queue in the TWLTL, out of the through lanes. Currently, this section of Barham Drive, located within the jurisdiction of the City of Escondido, is narrower than the sections adjacent to it. Improvements have been made to the sections adjacent to the listed termini to include curb, gutter and sidewalk. The section currently provides a temporary asphalt curb, gutter and sidewalk.

Concurrent with this mitigation measure, the project applicant shall improve the existing approximately 450-foot section of Barham Drive from east of Casitas Del Sol to project driveway “A” to provide a three-lane cross section, consistent with the existing three-lane (two-lane + TWLTL) segment west of Casitas Del Sol.

The following mitigation measure would be required at Segment #4, Barham Drive from Meyers Avenue to Mission Road (Impact TR-5) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-5 Segment #4. Barham Drive: Meyers Avenue to Mission Road – Prior to the issuance of the first permanent certificate of occupancy, the project applicant shall improve this segment within existing right-of-way on the north side of Barham Drive from Meyers Avenue to approximately 200 feet west of Mission Road by providing an additional two-way left-turn lane.

The addition of a two-way left-turn lane would enhance segment operations by allowing vehicles turning to commercial properties on the south side of the roadway to queue in the TWLTL, out of the through lanes.

The following mitigation measure would be required at Rancheros Drive to SR-78 WB On-Ramp Meter (Impact TR-6) to mitigate direct and cumulative impacts in the near-term and long-term scenarios:

MM-TR-6 Rancheros Drive to SR-78 WB On-Ramp Meter – Prior to the issuance of the first building permit, the project applicant shall pay the local and regional development fees assessed to address the impact to the City of San Marcos’ Woodland Parkway/SR 78 Interchange Capital Improvement Project, indexed to the cost of the westbound on-ramp widening and ramp meter modifications at this location.

3.15 Traffic and Circulation

As discussed above, this capital improvement project proposes widening on-and-off ramps, to include two SOV lanes and one HOV lane. Currently, there is only one mixed-use lane on the on-ramp. The additional HOV and SOV lanes on the westbound on-ramp would accommodate traffic that is currently queuing on Rancheros Drive, affecting local city street commuters. The project's traffic generation is consistent with that of the existing land use zoning considered in the CIP; therefore, no additional payment is required based on the proposed zoning change.

The following mitigation measure would be required at Intersection #8, Barham Drive / Mission Road (Impact TR-7) to mitigate cumulative impacts in the near-term and long-term scenarios:

MM-TR-7 Intersection #8. Barham Drive / Mission Road - Prior to the issuance of the first permanent certificate of occupancy, the project applicant shall upgrade the traffic signal equipment to allow for more efficient signal phases, signal timing, advanced queue detections, and coordination with the Sprinter railway crossing. These upgrades shall include traffic signal infrastructure, associated traffic signing, associated traffic striping, and other minor ancillary improvements at the intersection and intersection approaches within the City of San Marcos jurisdiction. Signal phasing upgrades may include modification of the traffic signal to provide right turn overlap (RTOL) phasing.

It should be noted that improvements would be located within the jurisdiction and control of the City of Escondido (MM-TR-2, MM-TR-3, a portion of MM-TR-4, and MM-TR-5) or the State of California (Caltrans) (MM-TR-1 and MM-TR-6), and neither the applicant nor the City of San Marcos can assure that the City of Escondido or Caltrans will permit the improvements to be made. Although these impacts could be mitigated by constructing the stated improvements, the impacts are considered significant and unavoidable at this time because the improvements necessary to reduce the significant impacts are infeasible as it is within the jurisdiction and control of another agency (City of Escondido or Caltrans) and implementation within the necessary timeframe cannot be assured. Based on regional standards of practice, the project impacts at these locations are considered significant and unavoidable. However, inter-jurisdictional coordination would be expected to occur to permit the implementation of these mitigation measures.

3.15.7 Conclusion

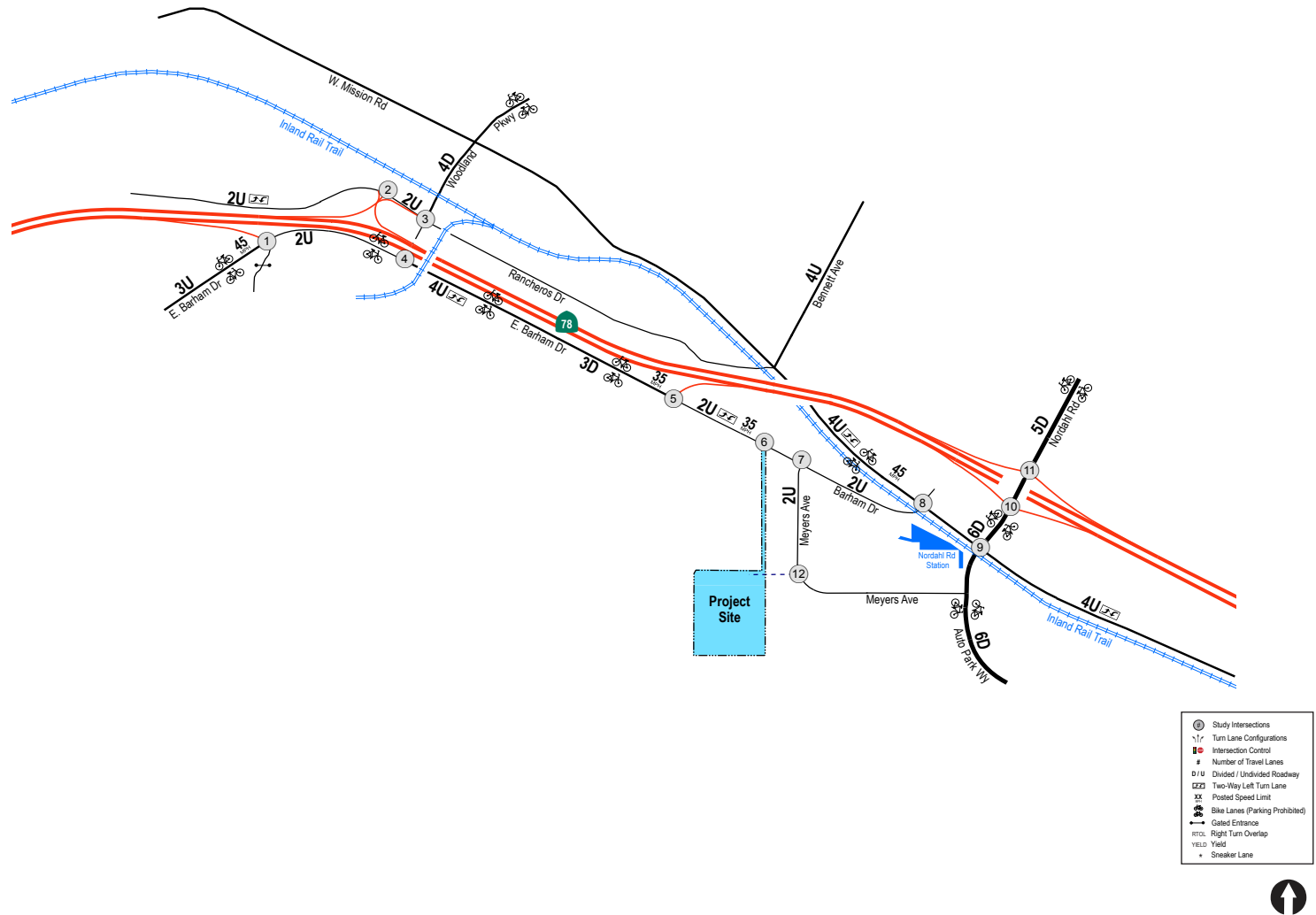
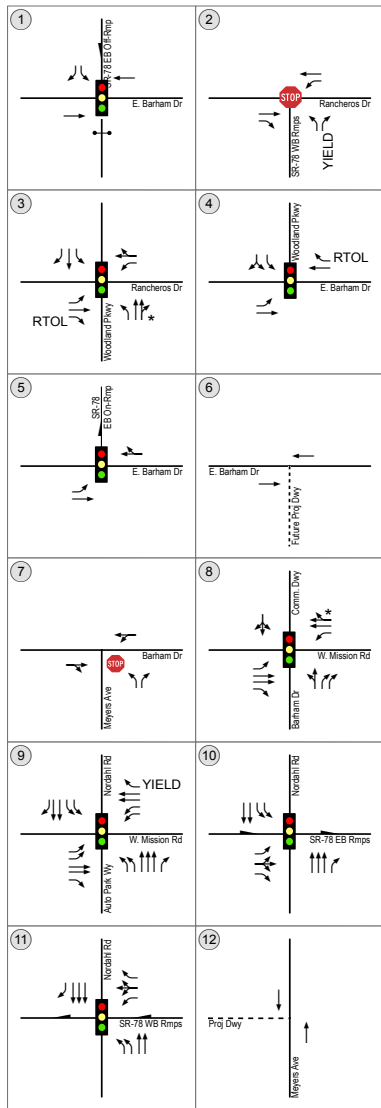
Table 3.15-13 provides a summary of project impacts, mitigation, and significant of impact after mitigation.

Table 3.15-13
Summary of Mitigation and Impacts

Impact ID	Location	Impact Type	Mitigation Measure Number	Significance After Mitigation
<i>Intersections</i>				
TR-1	Intersection #2. Rancheros Drive / SR-78 WB Ramps (<i>Caltrans</i>)	Near-Term Direct & Cumulative	MM-TR-1	Implementation of MM-TR-1 would fully mitigate the impact at this location. However, because this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that Caltrans will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable.
TR-2	Intersection #7. Barham Drive / Meyers Avenue (<i>Escondido</i>)	Near-Term Direct & Cumulative/ Long-Term Cumulative	MM-TR-2	Implementation of MM-TR-2 would fully mitigate the impact at this location. However, because this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that City of Escondido will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable.
TR-7	Intersection #8. Barham Drive / Mission Road (<i>San Marcos</i>)	Cumulative/ Long-Term Cumulative	MM-TR-7	Implementation of MM-TR-7 would fully mitigate the impact at this location.
TR-3	Intersection #9. Mission Road / Nordahl Road (<i>Escondido</i>)	Near-Term Direct & Cumulative/ Long-Term Cumulative	MM-TR-3	Implementation of MM-TR-3 would fully mitigate the impact at this location. However, because this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that City of Escondido will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable.

Table 3.15-13
Summary of Mitigation and Impacts

Impact ID	Location	Impact Type	Mitigation Measure Number	Significance After Mitigation
<i>Street Segments</i>				
TR-4	Segment #3. Barham Drive from SR-78 EB On-Ramp to Meyers Avenue (<i>San Marcos/Escondido</i>)	Near-Term Direct & Cumulative	MM-TR-4	Implementation of MM-TR-4 would fully mitigate the impact at this location. However, because a portion of this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that City of Escondido will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable.
TR-5	Segment #4. Barham Drive from Meyers Avenue to Mission Road (<i>Escondido</i>)	Near-Term Direct & Cumulative	MM-TR-5	Implementation of MM-TR-5 would fully mitigate the impact at this location. However, because this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that City of Escondido will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable.
<i>Ramp Meter Locations</i>				
TR-6	Rancheros Drive to SR-78 WB Ramp Meter (<i>Caltrans</i>)	Near-Term Direct & Cumulative	MM-TR-6	Implementation of MM-TR-6 would fully mitigate the impact at this location. However, because this mitigation would be located within another jurisdiction, neither the applicant nor the City of San Marcos can assure that Caltrans will permit the improvement to be made; the mitigation measure is therefore infeasible. Therefore, for the purposes of CEQA, this impact is considered significant and unavoidable..



SOURCE: Linscott, Law & Greenspan 2018

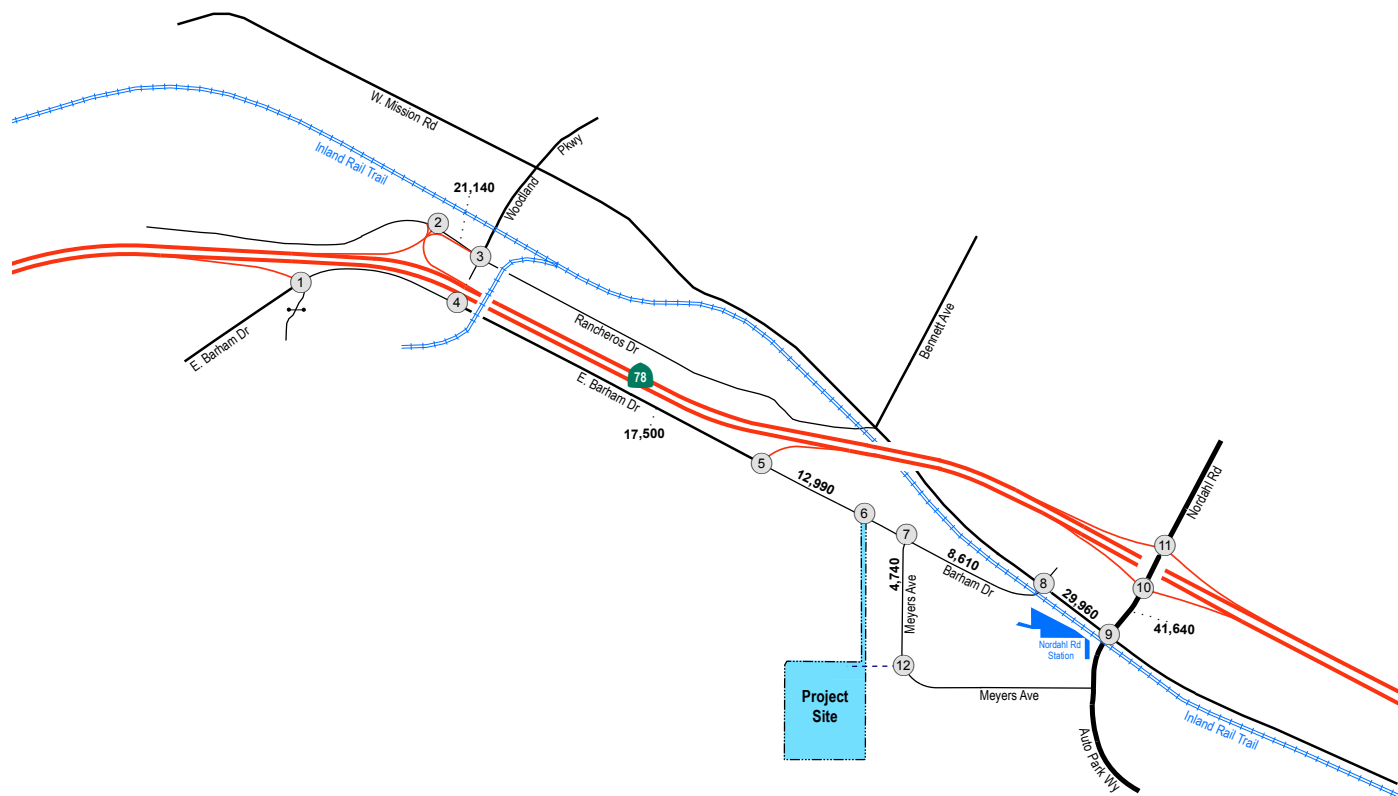
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FIGURE 3-15-1
Existing Conditions

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①	SR-78 EB On-Ramp 616 / 1,010 SR-78 EB On-Ramp 27 / 15 456 / 226 SR-78 EB On-Ramp 522 / 704 E. Barham Dr	②	SR-78 WB Ramps 217 / 477 38 / 75 SR-78 WB Ramps 310 / 200 584 / 477 Rancheros Dr
③	Woodland Pkwy 59 / 150 81 / 153 290 / 406 Woodland Pkwy 514 / 464 424 / 384 10 / 29 248 / 133 15 / 14 77 / 53 Rancheros Dr	④	Woodland Pkwy 315 / 394 879 / 1,019 Woodland Pkwy 681 / 341 311 / 514 288 / 320 492 / 384 E. Barham Dr
⑤	SR-78 EB On-Ramp 293 / 730 593 / 723 SR-78 EB On-Ramp 31 / 67 679 / 660 E. Barham Dr	⑥	E. Barham Dr 593 / 723 Future Ind. Dwy 785 / 702
⑦	Meyers Ave 299 / 550 343 / 258 Meyers Ave 563 / 525 23 / 21 Barham Dr	⑧	Barham Dr 748 / 791 87 / 57 Barham Dr 6 / 0 834 / 967 536 / 430 W. Mission Rd
⑨	Auto Park Wy 280 / 485 370 / 745 233 / 225 Auto Park Wy 281 / 514 846 / 314 304 / 178 Nordan Rd 247 / 485 380 / 588 68 / 46 W. Mission Rd	⑩	SR-78 EB Ramps 589 / 1,040 650 / 822 SR-78 EB Ramps 394 / 584 29 / 69 662 / 323 Nordan Rd
⑪	SR-78 WB Ramps 451 / 629 583 / 1,008 SR-78 WB Ramps 328 / 535 652 / 780 Nordan Rd 139 / 488 0 / 5 344 / 428	⑫	Meyers Ave 189 / 171 Meyers Ave 387 / 236 Proj Dwy



SOURCE: Linscott, Law & Greenspan 2018

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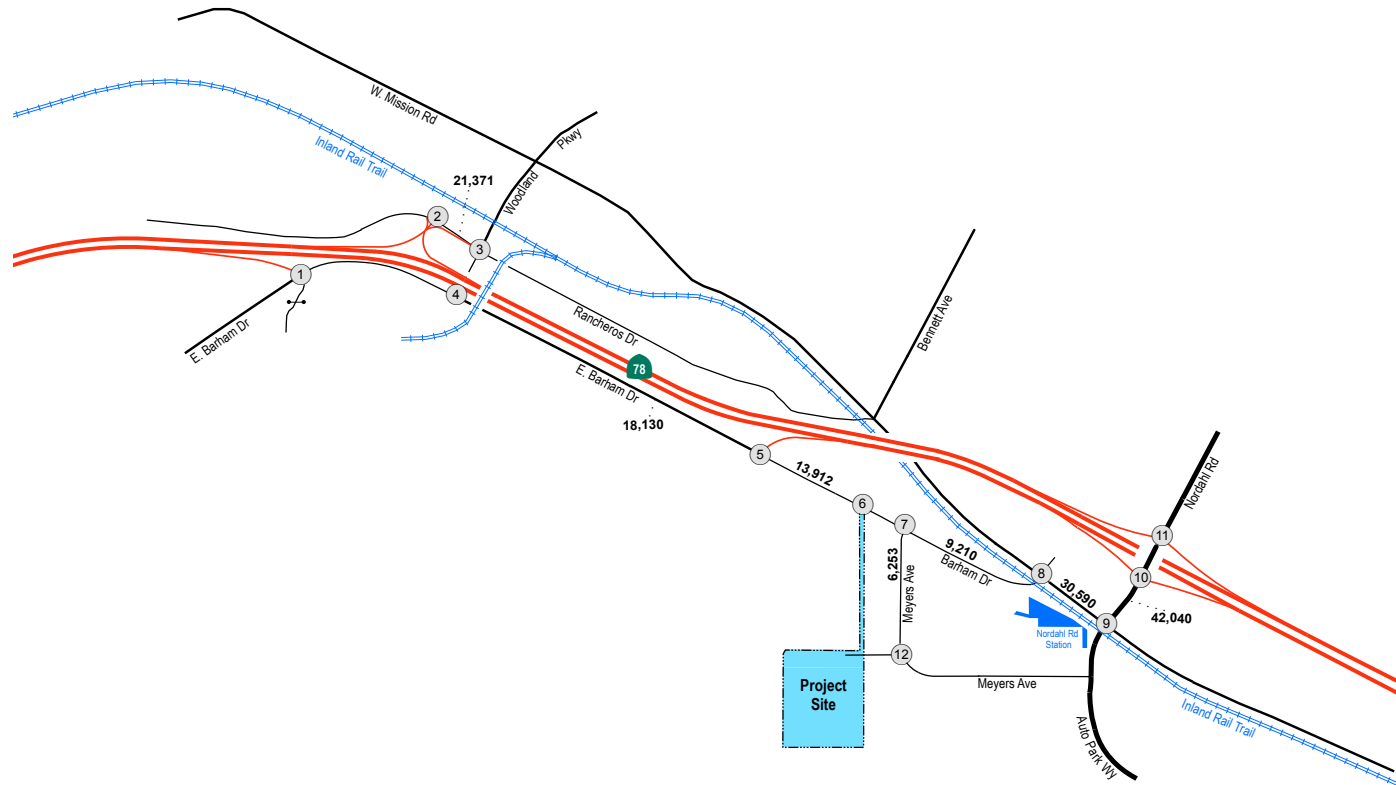
FIGURE 3-15-2
Existing Traffic Volumes

Sunrise Specific Plan Environmental Impact Report

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1	2
3	4
5	6
7	8
9	10
11	12



#	Study Intersections
AM / PM	AM / PM Intersection
→	Peak Hour Volumes
X,XXX	Average Daily Traffic Volumes
→	Gated Entrance



SOURCE: Linscott, Law & Greenspan 2018

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FIGURE 3-15-4
Existing Plus Project Traffic Volumes
Sunrise Specific Plan Environmental Impact Report

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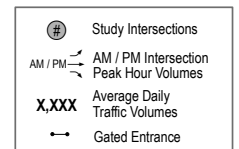
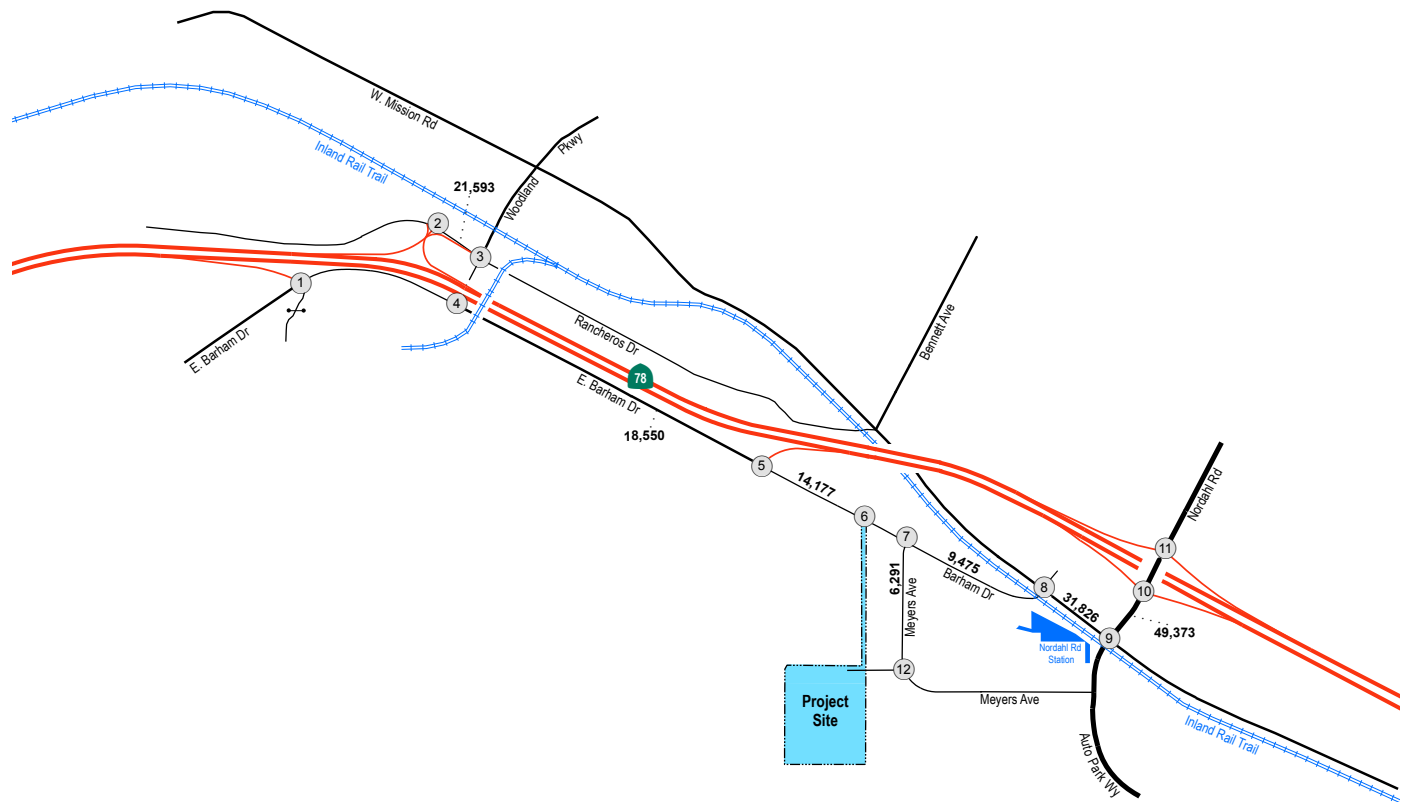
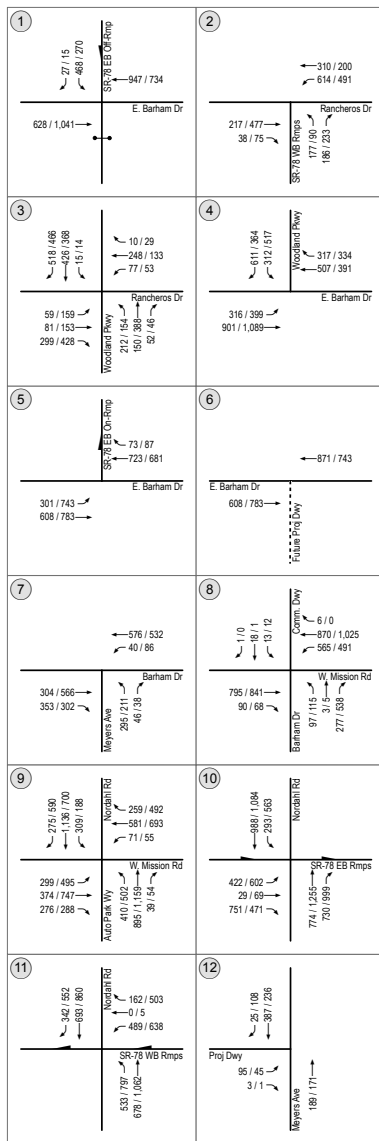


FIGURE 3-15-5

Existing Plus Cumulative Plus Project Traffic Volumes

Sunrise Specific Plan Environmental Impact Report

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3.16 TRIBAL CULTURAL RESOURCES

This section describes the existing tribal cultural resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. As defined by Public Resources Code Section 21074, a tribal cultural resource is 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 1) either on or eligible for the California Register of Historic Resources (CRHR) or a local historic register, or 2) determined by the City, at its discretion to treat the resources as a tribal cultural resource (Public Resources Code Section 5024.1). Cultural resources are further analyzed in Section 3.4, Cultural Resources, of this Environmental Impact Report (EIR).

The analysis in this section relies, in part, on the Cultural Resource Inventory Report for the Sunrise San Marcos Project, City of San Marcos, California, (Cultural Resources Report) prepared by Dudek on August 10, 2018. 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 Cultural Resources Study is included as Appendix E of the 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
<p>#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:</p> <p>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</p> <p>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.</p>	Potentially Significant	Less than Significant	Less than Significant with MM-CR-1 through MM-CR-8

3.16.1 Existing Conditions

This section provides information on the archeological context of the project site. It also provides information on the outreach and consultation efforts with local Tribes, as required by existing regulations.

Cultural Setting

Natural Setting

As discussed in Section 2, Project Description, of this EIR, the approximately 14.4-acre project site is currently vacant, with areas disturbed from previous agricultural uses. Six vegetation communities/land covers were mapped within the project site, including wild oats grassland, California buckwheat scrub (including disturbed), black sage scrub, white sage scrub, disturbed habitat, and ornamental.

Historical Context

Native Americans have occupied San Diego County for the past 10,000 years. The Archaic Period extends back at least 7,200 years, possibly to as early as 9,000 years ago. Early Archaic occupations in San Diego County are most apparent along the coast and major drainage systems extending inland from the coastal plains. Coastal Archaic sites are generally characterized by cobble tools, basin metates, manos, discoidals, dart points, and flexed burials. Together, these elements typify the La Jolla complex, which appears as the early coastal manifestation of a more diversified way of life.

Around 2,000 years ago, people from the Colorado River region began migrating into southern California in what is known as the Late Prehistoric period. Late Prehistoric sites are generally characterized by small, pressure-flaked projectile points, ceramics, an emphasis on collecting, processing, and storing plant food, and cremations. Villages became increasingly permanent, providing opportunity for the creation of stationary milling stations and the use of mortars for acorn processing.

In more recent times, two main cultural groups occupied San Diego County: the Luiseño in the north and the Kumeyaay (or Diegueño) in the south.

Methodology

South Coastal Information Center Records Search

A records search was undertaken at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) in August 2017 by Dudek. The records search encompassed a search radius of one-half mile around the project site. A total of 66 previous cultural resources investigations have been conducted within a one-mile radius of the proposed project's area of potential effect (APE). Per the Code of Federal Regulations, an APE is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic

3.16 Tribal Cultural Resources

properties, if any such properties exist (CFR 2019). As described in the Cultural Resources Inventory Report for the project (Appendix E), and Section 3.4, Cultural Resources, of this EIR, the 14.4-acre project site comprises the project APE..

The records search revealed that four previous cultural resources studies have been completed within the APE. Three of these four previous cultural resources studies specifically address portions of the APE but did not identify any cultural resources or historic addresses within the APE. The fourth cultural study is a broader overview study of cultural resources in the Vallecitos Water District and also identified no cultural resources in the APE. The SCIC records search also revealed that no cultural resources have been recorded within the APE. The records search did identify 32 cultural resources and five historic addresses within 1 mile of the APE (Appendix E).

Tribal Coordination and Consultation

A Sacred Lands File (SLF) search at the Native American Heritage Commission (NAHC) was conducted in July 2017, for the project site and a 1-mile buffer (project area). The SLF search failed to indicate the presence of any Native American cultural resources in the immediate project area. The NAHC provided a list of 35 known Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. On August 4, 2017, Dudek sent letters to all 35 local Native American contacts to solicit additional information relating to Native American resources that may be impacted by the project.

Four tribes responded to Dudek. On August 21, 2017, Ray Teran, Resource Manager with the Viejas Band of Kumeyaay Indians (Kumeyaay), responded that the project site has cultural significance and/or tied to the Viejas Band of Kumeyaay Indians and requested that a Kumeyaay cultural monitor be on site during ground disturbing activities. David Toler, Councilman for the San Pasqual Band of Mission Indians, responded on August 30, 2017 and stated that they know of no particular cultural resources within the project APE, but believe that the potential for resources exist. Mr. Toler did not make any specific request but did state that the San Pasqual Band is concerned that cultural resources may be disturbed. Chris Devers, Cultural Liaison for the Pauma Band of Luiseno Indians, responded on August 31, 2017 and stated that the tribe is unaware of any specific cultural resources within the project area. Mr. Devers did request copies of the current study when completed. Lastly, Merri Lopez-Keifer, Chief Legal Counsel to San Luis Rey Band of Mission Indians, requested that all cultural resource surveys completed in the project area be emailed to Cami Mojado. Dudek emailed copies of the four previously conducted cultural resource studies conducted within the APE to Cami Mojado on October 5, 2017. No other communications between Dudek and Native American group representatives included on the NAHC contact list has occurred since then. Dudek initiated tribal outreach prior to official government to government consultations between the City and concerned Tribes.

3.16 Tribal Cultural Resources

Consultation under Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18) is ongoing with the City and concerned Tribes, and thus far includes the meetings and outreach outlined in Table 3.16-2. Refer to Appendix E for a copy of the correspondence described below. The ongoing consultation process has resulted in input to this section's analysis, included the proposed mitigation measures.

Table 3.16-2
Tribal Consultation Outreach Summary

Contact Date	Tribal Government/Representative	Location/Correspondence
05/22/18	SB-18 Consultation Letter mailed to NAHC list	Letter mailed to NAHC list
07/10/18	Rincon Band of Luiseno Indians Request to Consult	Letter
08/28/18	Rincon Band of Luiseno Indians/Destiny Colocho	City of San Marcos Development Services Department Meeting
03/18/19	City of San Marcos AB-52 Consultation Letter Notification	Letter mailed to official City AB-52 tribal list
03/21/19	San Luis Rey Band of Luiseno Indians/Merri Lopez Keifer & Cami Mojado	Request for consultation
04/17/19	San Luis Rey Band of Luiseno Indians/Merri Lopez Keifer & Cami Mojado	Consultation Conference call
05/21/19	Rincon Band of Luiseno Indians/Destiny Colocho	City of San Marcos Development Services Department Meeting
06/28/19	San Luis Rey Band of Luiseno Indians/Merri Lopez Keifer & Cami Mojado	Continued Consultation Letter
06/20/19	San Luis Rey Band of Luiseno Indians/Merri Lopez Keifer & Cami Mojado	Consultation Conference call
07/25/19	San Luis Rey Band of Luiseno Indians/Merri Lopez Keifer	Email
08/13/19	San Luis Rey Band of Luiseno Indians/Merri Lopez-Keifer	Email
09/04/19	San Luis Rey Band of Luiseno Indians/Merri Lopez-Keifer	Email
09/10/19	San Luis Rey Band of Luiseno Indians/Merri Lopez-Keifer	Email
10/21/19	Rincon Band of Luiseno Indians/Destiny Colocho & Cheryl Madrigal	City of San Marcos Development Services Department Meeting
11/07/19	San Luis Rey Band of Luiseno Indians/Merri Lopez-Keifer	Consultation Conference call

3.16.2 Regulatory Setting

State

California Register of Historical Resources and the California Environmental Quality Act

CEQA requires that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. The act defines historical resources as “any object, building, structure, site, area, or place that is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code, Section 5020.1[j]).

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed project’s impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired. While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of a historical resource that convey its historical significance (i.e., its character-defining features) is considered to materially impair the resource’s significance. The CRHR is used in the consideration of historical resources relative to significance for purposes of CEQA. The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP) and some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR, and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR (California Public Resources Code, Section 5024.1; 14 CCR 4852), which include the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
- It is associated with the lives of persons important to local, California, or national history; or
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Senate Bill 18

The Traditional Tribal Cultural Places Bill of 2004 (SB 18) requires local governments to consult with Native American tribes during the project planning process. The intent of this legislation is to encourage consultation and assist in the preservation of “Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance” (County of San Diego 2007). The purpose of this consultation is to protect the identity of the cultural place and to develop appropriate and dignified treatment of the cultural resource. The consultation is required whenever a General Plan, General Plan Amendment, Specific Plan, Specific Plan Amendment, or Open Space Element is proposed for adoption. As part of the planning process, California Native American tribes must be given the opportunity to consult with the lead agency for the purpose of preserving, mitigating impacts to, and identifying cultural places.

Assembly Bill 52

AB 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 tribal cultural resources (TCRs). Public Resources Code, 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, or 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.

Native American Historic Resource Protection Act

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 (PRC Section 5097 et seq.) makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the California Register of Historical Resources.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act) (25 U.S.C., Chapter 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

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the County Coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe that the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify the most likely descendant, and with the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the most likely descendant by the NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

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

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.*

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. City consultation on AB 52, as well as SB 18, is ongoing. However, there is potential for the project to encounter previously unknown and unanticipated TCRs during project construction (Impact TCR-1) and mitigation is required.

Impact TCR-1: There is potential for project construction to adversely affect previously unidentified TCRs.

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. As the proposed project would not result in a significant impact to TCRs, it would not result in a cumulatively considerable impact.

3.16.6 Mitigation Measures

Implementation of mitigation measures MM-CR-1 through MM-CR-8 outlined in Section 3.4, Cultural Resources of this EIR.

3.16.7 Conclusion

For reasons described in Section 3.4.7, implementation of mitigation measures MM-CR-1 through MM-CR-8 would reduce potentially significant impacts to TCRs (Impact TCR-1) to a level below significance.

3.17 UTILITIES AND SERVICE SYSTEMS

This section describes the existing utilities setting of the project site, 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 3.8, Hydrology and Water Quality, of this environmental impact report (EIR). Energy consumption and conservation are addressed in Section 3.5, Energy Consumption, of this EIR.

Some of the analysis in this section relies on the following technical studies and supporting documentation:

- Water System Analysis prepared by Dexter Wilson Engineering, Inc. in April 2019 included as Appendix K1 of this EIR.
- The sewer study technical memorandum prepared for the proposed project by Robert Scholl, P.E. and Eileen Koonce, in October 2018 included as Appendix K2 of this EIR.
- Project Facility Availability Form – Water, included as Appendix K3 of 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

The following provides background information about the water, wastewater and solid waste service providers that will serve the proposed project. It references applicable water and wastewater agency planning documents.

Water

Water service for potable residential use and fire service for the proposed project would be provided by the Rincon Del Diablo Municipal Water District (Rincon). The project site located entirely within the service area boundaries of Rincon. Rincon supplies potable and recycled water to a population of 30,000 people through nearly 8,000 connections representing residential, agricultural, landscape, and commercial/industrial water uses. Rincon's service area includes the cities of Escondido, San Marcos, and San Diego, and various unincorporated areas of San Diego County (Rincon 2018).

Rincon is a member agency of the San Diego County Water Authority (SDCWA). SDCWA, in turn, is a member agency of the Metropolitan Water District (MWD). To understand water supply availability for the proposed project, it is important to begin with MWD and follow the water supply through these agencies.

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 5,234,000 acre feet/year (AFY) for 2020, the MWD UWMP concludes that, with implementation of required conservation measures, MWD has supply capabilities sufficient to meet expected demands through 2040 under normal, single dry, and multiple dry water years (MWD 2016). SDCWA is the largest member agency of MWD. SDCWA was established in 1943 and according to its 2015 UWMP, supplies 75 to 95 percent of the water needs in San Diego County through five major pipelines (SDCWA 2016). SDCWA's service area covers 1,486 square miles and a population of 3.2 million. Annual water demand as of 2015 was 539,361 AFY. Despite MWD records demonstrating sufficient supply exists to meet anticipated demand, for its analysis SDCWA assumed MWD would allocate available supply in multiple dry water years to ration emergency supply. Incorporating this assumption, SDCWA projects reliable water supply for its member agencies in normal and single dry water years but potential water shortages in multiple dry water years¹. This prudent planning and water supply allocation would ensure reserve supply is not completely depleted and instead remains available for future dry water years or very severe shortage situations (SDCWA 2016).

¹ While potential shortages are projected, additional conservation measures would be employed in multiple dry water years to reduce water demand such that any projected supply shortages would be offset by incorporation of these measures.

3.17 Utilities and Service Systems

Rincon currently imports all of its potable, treated water from SDCWA, particularly from the SDCQWA First Aqueduct, and all of its recycled water from the City of Escondido's Hale Avenue Resource Recovery Facility (HARRF). According to Rincon's UWMP, the reliable quantities of projected water supply for Years 2025 and 2030 are 8,009 acre-feet per year and 8,229 acre-feet per year, respectively. Rincon projects 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 2040 (Rincon 2016). Rincon provides water service to two geographically separated areas, which include 12 square miles along the western boundary of the City of Escondido and approximately 2 square miles of the southeast portion of the City of Escondido. Existing facilities throughout these two locations include various reservoirs, pipes, and pump stations. According to Rincon's Water Master Plan, future water system and reliability projects over the next five to ten years will primarily occur within the Harmony Grove Village development, a residential development within the County (see Table 2-3, Cumulative Projects), and development to the immediate north and south. New storage and transmission mains will be constructed as the system expands and serves new development. These expansions would also strengthen the reliability of existing water systems to access available water storage, enhance fire flow capabilities and provide increased redundancy (Rincon 2014). Although Rincon provides recycled water to its customers for landscape and irrigation use, Rincon does not currently operate a wastewater collection or treatment system but rather purchases treated water from the City of Escondido's HARRF (Rincon 2016).

The project site is currently undeveloped. Potable water is delivered to the project area by an existing 10-inch line within Barham Drive and an existing 8-inch line within Meyers Avenue.

Wastewater

Wastewater service for the proposed project would be provided by either the City of Escondido or the Vallecitos Water District (VWD). The northern parcel is located within the VWD's sewer service boundary; however, the southern parcel is located outside of VWD's sewer service boundary. The entire project site is located outside and adjacent to the City of Escondido's sewer service boundary.

The proposed project presents two options for sewer service to be provided to the project site. As described in Section 2.2.2.5 of Chapter 2, two options are contemplated due to differences in extent of construction requirements (i.e., area of disturbance, depth of excavation), potential community disruption (trenching and blasting within E. Barham Drive), and operational maintenance. Regardless of which option for sewer service is ultimately selected, annexation into VWD would be required.

As described in Chapter 2 Project Description of this EIR, under Sewer Option #1, wastewater service for the proposed project would be provided by the City of Escondido. The City of Escondido Wastewater Division operates the wastewater treatment and disposal facility at the Hale Avenue Resource Recovery Facility (HARRF). The City of Escondido's Wastewater/Collections Division maintains more than 380 miles of sewer lines, more than 7,500 sewer manholes, 14 miles of sewer outfall line and a pretreatment inspection program (City of Escondido 2019a).

3.17 Utilities and Service Systems

Under Sewer Option #2 for the proposed project, VWD would provide wastewater service. VWD provides wastewater and reclamation services and its service area includes 23 square miles and approximately 88,000 people, and includes commercial, light industrial, institutional, construction, landscape irrigation, and agricultural customers. The northern parcel of the project site is currently within VWD's service area. The southern parcel of the project site is not currently located within VWD's sewer service boundary. As such, the southern portion of the project site would require annexation into VWD's service area

Hale Avenue Resource Recovery Facility

The City of Escondido's Wastewater Division operates the wastewater treatment and disposal facility at the Hale Avenue Resource Recovery Facility (HARRF). Approximately 360 miles of pipelines and 11 pumping stations serve as the sanitary collection system for the community's domestic and industrial wastewater. Designed to speed up nature's processes by the use of a controlled environment, wastewater treatment cleanses the wastewater of pollutants. HARRF is currently moving forward with a project to reclaim biogas and reuse it as electricity that will power the HARRF (City of Escondido 2019a). The HARRF is an activated sludge, secondary treatment facility. This consists of a physical, biological, and chemical treatment methods, which include screening, sedimentation, chemical precipitation, and biological processes. The HARRF is designed to treat a flow of 18 million gallons per day (MGD). The City of Escondido operates the HARRF for the benefit of the City and the Rancho Bernardo area of the City of San Diego. Operating 24 hours a day, the average daily flow is 12.7 MGD, comprised of Escondido's flow of 9.7 MGD and Rancho Bernardo's flow of 3.0 MGD. Wastewater is treated through a series of complex processes to a level of quality that is safe to discharge from the HARRF to the Pacific Ocean via a 14-mile long land outfall pipeline that connects to an ocean outfall pipeline near San Elijo Lagoon. The effluent exits the outfall pipeline approximately 1.5 miles offshore through diffuser ports 110 feet deep in the Pacific Ocean. The City of Escondido Wastewater Division sends the organic material, called biosolids, to Yuma, Arizona for beneficial reuse as a soil amendment (City of Escondido 2019b).

Meadowlark Water Reclamation Facility

Built in 1961, the Meadowlark Water Reclamation Facility (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 (RWQCB) Region 9. The MRF has a capacity of 5 million gallons per day (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 (OMWD). The Carlsbad Municipal Water District is contracted to annually purchase 3 MGD, while OMWD is contracted to annually purchase up to 1.5 MGD (VWD 2018).

3.17 Utilities and Service Systems

Surplus water from the MRF is stored in the 54-MG Mahr Reservoir. Of the total 54 MG within the reservoir, 32 MG is allocated to Carlsbad Municipal Water District, and 16 MG 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 (EWPCF) for disposal via a 3 MGD capacity failsafe pipeline. Under dry weather conditions, up to one MGD is conveyed for disposal. Under wet weather conditions, VWD would manage flow via the Mahr Reservoir to ensure flows to EWPCF would not exceed 2.5 MGD². 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).

Encina Water Pollution Control Facility

EWPCF is governed by a Joint Powers Authority (JPA) owned by six public agencies including VWD, the cities of Carlsbad, Vista, and Encinitas, Buena Sanitation District, and Leucadia Wastewater District (Encina Wastewater Authority 2018b). Built in the mid-1960s, EWPCF treats approximately 22 MGD of wastewater a day, with a capacity of over 40 MGD (Encina Wastewater Authority 2018a). VWD owns approximately 24 percent of the facility for treatment and disposal. Average daily wastewater flow from VDW conveyed into EWPCF is approximately 3.11 MGD, although in December of 2010, VWD experienced its maximum day of the year, and conveyed approximately 13.6 MGD of wastewater to the EWPCF. Because the MRF does not provide solids handling capacity, all solids must be processed at EWPCF.

A majority of VWD's wastewater is conveyed to the EWPCF using the District's maintained Land Outfall. The Land Outfall is approximately 8 miles long and conveys flow by gravity as well as pressure through siphon sections (VWD 2018). Wastewater treated at the EWPCF is then discharged to the Pacific Ocean through the Encina Ocean Outfall, which extends approximately 1.5 miles offshore, to a depth of about 150 feet (Encina Wastewater Authority 2018c).

Solid Waste

Solid waste disposal in the City 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 the City. Waste collected by EDCO is hauled to the Escondido Resource Recovery Transfer Station where it 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 2012). The Escondido Resource Recovery Transfer Station has a permitted daily maximum capacity of 2,500 tons. Solid waste is consolidated here and trucked to a landfill for disposal. The site is

² Despite a total capacity of 3 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 EWPCF will be less than 3 MGD.

permitted to allow seven days per week, twenty-four hour per day operation (County of San Diego 2008). The Sycamore Sanitary Landfill has a daily permitted throughput of 5,000 tons/day of solid waste, with an anticipated closure date of 2042 (CalRecycle 2018a).

Energy

Electricity and natural gas would be provided by San Diego Gas & Electric (SDG&E). There are existing adjacent electrical lines and natural gas pipeline within Meyers Avenue. Additionally, an existing 69-kilovolt (kV) electrical transmission line (specifically, transmission line TL 684, Escondido to San Marcos) traverses the project site in a north-south direction, and includes electrical poles Z815154, Z114375, Z114374, and Z36342.

3.17.2 Regulatory Setting

Existing federal, state, and local regulations related to water, wastewater, and solid waste that are applicable to the proposed project are summarized below.

Federal

Clean Water Act

The federal Clean Water Act (CWA) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The City of San Marcos is required to monitor water quality and conform to regulatory requirements of the CWA.

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 (SBX7-7) requires each urban retail water supplier to develop an urban water use target and an interim urban water use target. Notably,

3.17 Utilities and Service Systems

SBX7-7 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 (CWC) Section 10608.28(a). As described above, water service to the site is provided by Rincon. In accordance with this regulation, Rincon prepared and their Board of Directors adopted its 2015 UWMP in 2016. Rincon'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 Rincon's UWMP have been coordinated with SDWCA, Rincon'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 2016 standards became effective on January 1, 2017. 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.

Senate Bill 221

Signed into law on October 8, 2001, Senate Bill (SB) 221 established a process whereby sufficient water supply must be identified and available for new development for any residential development of 500 homes or more, or, in the case wherein a water supplier has fewer than 5,000 service connections or the proposed development would increase the number of connections by at least 10 percent, unless there is proof of adequate water over at least the next 20 years, including long periods of drought. Due to the size of the proposed project, a water supply assessment and verification report pursuant to SB 221 and SB 610, described below, are not required.

Senate Bill 610

Signed into law October 9, 2001, SB 610 resulted in amendments to the Public Resources Code and the Water Code. Revising provisions established by SB 901, SB 610 requires that the planning agency determine whether a proposed project, subject to CEQA, meets any of the thresholds for requiring preparation of a water supply assessment. Specifically, if the project is a proposed development of more than 500 dwelling units, the planning agency must then request that the urban water supplier prepare a water supply assessment. The assessment would include the identification of existing water entitlements, water rights, or water service contracts relevant to the water supply identified for the proposed project, and the amount of water received pursuant to such entitlements, rights, or contracts. Due to the size of the proposed project, a water supply assessment pursuant to SB 610 is not required.

Assembly Bill 939 and 341

In 1989, Assembly Bill (AB) 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 (CIWBM), 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 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. 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 CalRecycle believes would assist the state in reaching the 75% goal by 2020.

Local

San Diego County Integrated Waste Management Plan

Pursuant to the IWMA, 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 SRREs and HHWEs 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 (LTF). The LTF 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 LTF, as well as other solid waste issues of regional or countywide concerns.

City of San Marcos Municipal Code

Title 8, Health and Sanitation

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. Chapter 14.15 contains regulations concerning storm water management and discharge control. Chapter 14.24 contains regulations concerning underground utility facilities. 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 San Marcos Municipal Code are referred to as the Zoning Ordinance. The City of San Marcos Municipal Code Title 20, Section 20.330, details the City's Water Efficient Landscape (WELO). 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 General Plan

The General Plan Conservation and Open Space Element includes one goal regarding water supply that is applicable to the proposed project:

3.17 Utilities and Service Systems

- **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 proposed project:

- **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 proposed project:

- **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.

The General Plan Land Use and Community Design Element also identifies the following goal and policies regarding solid waste that are applicable to the proposed project:

- **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.

The proposed 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 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 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 proposed project would include development of 192 residential units. As such, the proposed project would increase the intensity of uses on the project site, resulting in increased water use. CalEEMod default water usage rates were used to estimate the anticipated water demand of the proposed project. Based on the CalEEMod generation rates, water use per day would be approximately 58,514 gallons per day (Appendix C). Additionally, it is estimated that the project would have an estimated peak water demand of 591 gallons per minute (Appendix K1).

As discussed above, the project site is within the water service boundaries of Rincon (District). Rincon currently imports all of its potable, treated water from SDCWA, particularly from the SDCQWA First Aqueduct, and all of its recycled water from the City of Escondido's HARRF. As such, Rincon does not currently have water treatment facilities. As discussed in its Water Master Plan, Rincon would seek to offset increases in potable water demand by expanding its recycled water distribution system or developing local water supplies, which are projected to increase from 280 AFY in 2020 to 900 AFY in 2035 (Rincon 2014). As such, the proposed project would not result in the construction of new water treatment facilities.

Once operational, with proposed water connections, the project would connect to Rincon's water system via the existing 10-inch line within Barham Drive and 8-inch line within Meyers Avenue. These improvements would occur within the project footprint, and environmental clearance for these impacts is covered under this EIR. For these reasons, the proposed project would not require or result in the relocation or construction of new water facilities. Impacts to water services would be less than significant.

Wastewater

As described above, the proposed project would include development of 192 residential units. As such, the proposed project would increase the intensity of uses on the project site, resulting in increased wastewater generation. The Sewer Study prepared for the proposed project estimated that the proposed project would generate approximately 35,900 gallons of wastewater per day (Appendix K2).

As discussed in Section 3.17.1, wastewater service for the proposed project would be provided by either the City of Escondido or the Vallecitos Water District (VWD). The proposed project presents two options for sewer service to be provided to the project site for reasons described in Section 2.2.2.4 of this EIR. Regardless of which option for sewer service is ultimately selected, annexation into VWD would be required. Sewer Option #1 is the preferred option for provision of sewer to the project site.

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Under Sewer Option #1, on-site sewer would be transported via a proposed 8-inch private sewer main that would connect to an existing 8-inch public sewer main within Meyers Avenue, for a total of 440 feet off-site within the proposed project driveway (see Figure 2-12 in Chapter 2). Although the project site is located outside and adjacent to the City of Escondido's sewer service boundary, the project driveway connecting the project site to Meyers Avenue would be located within the City of Escondido's sewer service boundary. Because a portion of the project site is located within the VWD sewer service boundary, Sewer Option #1 would require annexation into VWD and an "Extra Territorial Service Agreement for Sewer" between the City of Escondido, VWD, and the project applicant to allow for the City of Escondido to provide sewer service to the project site. As discussed under Section 3.17.1 above, the City of Escondido operates the HARRF for the benefit of the City, and the Rancho Bernardo area of the City of San Diego. HARRF operates 24 hours a day, and the average daily flow is 12.7 MGD, comprised of Escondido's flow of 9.7 MGD and Rancho Bernardo's flow of 3.0 MGD. Wastewater is treated through a series of complex processes to a level of quality that is safe to discharge from the HARRF to the Pacific Ocean via a 14-mile long land outfall pipeline that connects to an ocean outfall pipeline near San Elijo Lagoon. The effluent exits the outfall pipeline approximately 1.5 miles offshore through diffuser ports 110 feet deep in the Pacific Ocean (City of Escondido 2019b). It is anticipated that the HARRF would have sufficient capacity to service the project's estimated wastewater generation of 35,900 gallons per day.

Under Sewer Option #2, an additional sewer connection option would require off-site improvements within E. Barham Drive. This would require 965 feet of new sewer line to be installed in E. Barham and 1,250 feet along the Barham driveway to the main project for a total of 2,215 feet outside of the main project area. The sewer connection would travel west from the E. Barham Drive project entrance for approximately 965 feet to connect to an existing 8-inch public sewer line and would occur entirely within the E. Barham Drive right-of-way (see Figure 2-3 in Chapter 2). When compared to Sewer Option #1, Sewer Option #2 would require a larger area of disturbance within the public right-of-way disrupting traffic movement and surrounding land uses; would require a depth of excavation within E. Barham Drive that could reach approximately 20 feet below the ground surface; would likely encounter hard rock, requiring blasting to remove; and would result in more costly and difficult maintenance and access during ongoing operations. Sewer Option #2 is under consideration because the northern parcel of the project site is within the VWD service boundary. However, as discussed in the Sewer Study (Appendix K2), with installation of these improvements, wastewater facilities would have enough capacity to serve the project.

Because VWD utilizes both MRF and EWPCF for wastewater treatment, wastewater generated by the proposed project would be treated at either facility. As discussed under Section 3.17.2, above, VWD's average wastewater flow at both facilities is approximately 6.8 MGD³ (VDW 2018) and both facilities total an average daily capacity of 45 MGD (VWD 2018; Encina Wastewater Authority 2018a). In comparison to the density planned for the project site in the 2008 VWD Master Plan, the proposed

³ Average of 3.65 MGD of wastewater flow to the MRF + average of 3.11 MGD of wastewater flow to the EWPCF

3.17 Utilities and Service Systems

project would increase the projected average wastewater generation by approximately 17,232 gpd. However, the project's estimated generation of approximately 35,900 gallons of wastewater per day, would equate to approximately 0.08% of MRF's and EWPCF's total daily capacities. As such, compared to the capacities of the MRF and EWPCF, the wastewater generated by the project would be nominal. As discussed in the Sewer Study (Appendix K2), the project applicant would be required to pay all applicable Wastewater Capital Facility fees in effect at the time service is committed in accordance with District rules and regulations, and acceptance by VWD of all wastewater facilities required to be constructed for service to the project. Furthermore, the project applicant will pursue annexation approval from the VWD Board of Directors in accordance with VWD rules and regulations, in conjunction with San Diego Local Agency Formation Commission, following project approval. Under these conditions, and with consideration that proposed infrastructure is analyzed throughout this EIR, the project would not exceed current capacities of the wastewater treatment system and would not significantly impact existing wastewater treatment systems. Therefore, impacts to wastewater services would be less than significant.

Storm Water Drainage

As discussed in Section 3.9.4, the proposed project would result in an increase of impervious areas to the site by approximately 70%. If not carefully planned for, increased runoff from impervious surface can cause alterations to drainage courses. However, as indicated in the Drainage Study (Appendix H2), the proposed project would include storm drains such as biofiltration basins, to be located on the northeast and southeast portion of the site (see Figure 2-10a). These components would properly handle runoff to meet regulatory requirements and to ensure that post-development runoff quantities are similar to or less than pre-development conditions (Appendix H2). Although the project would include new storm water infrastructure to support project facilities, proposed infrastructure has been accounted for and analyzed throughout this EIR. The project would not contribute a substantial amount of new stormwater runoff relative to existing conditions, and impacts are determined to 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 3.5.4, during construction, the amount of electricity used would be minimal because typical demand stems from the use of several construction trailers that are used by managerial staff during the hours of construction activities in addition to electrically powered hand tools. As discussed in Section 2.2.2.4, the project would result in the undergrounding of the existing overhead 69-kilovolt electrical transmission line (TL 684), that traverses the project site. Construction would result in the removal of existing utility poles and placement of the line within the project's proposed internal roadways. Undergrounding of this transmission line is accounted for in the construction assumptions and considered in the project impact analysis and mitigation measures for the proposed project as a whole throughout this EIR.

3.17 Utilities and Service Systems

During operations, proposed project is estimated to have a total electrical demand of approximately 981,543 kWh per year, which was estimated using CalEEMod (details are provided in Appendix C of this EIR). However, the proposed project includes various on-site features and measures to reduce the proposed project's energy consumption, which includes incorporating zero net energy (ZNE) features into the building design, and would be consistent with every mandatory project design feature in the climate action plan (CAP) Consistency Worksheet that would reduce operational electricity consumption. It was assumed that homes built under the 2019 Title 24 standards would use about 53% less energy than those under the 2016 Title 24 standards. The project would install smart meters and programmable thermostats, cool roof materials, and efficient lighting in all buildings and light control systems, where practical, which would reduce lighting energy by 20%. Thus, the proposed project would not require or result in the relocation or construction of expanded electric power facilities. Impacts would be less than significant.

Natural Gas

As discussed in Section 3.5.4, natural gas is not anticipated to be required during construction of the proposed project. However, natural gas would be directly consumed throughout operation of the proposed project, primarily through building heating for homes. The proposed project is estimated to use approximately 18,562 therms of natural gas per year (Appendix C). By comparison, in 2015, SDG&E supplied 464.5 million therms of natural gas to customers (CEC 2016). Thus, the proposed project would not require or result in the relocation or construction of new or expanded natural gas facilities. 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. However, no specific systems upgrades are proposed with this project, and the location and extent of future facilities is not known at this time. Thus, the project would not result in physical impacts associated with the construction of communications systems. Impacts would 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 under Threshold #1, above, the proposed project would be served by Rincon. Rincon anticipates the demand of future development through their master planning process. With development of MWD, SDCWA and Rincon's supplies, along with compliance with the Water Conservation Bill of 2009, no water shortages are anticipated within Rincon's service area in single or multiple dry years through 2040 (Rincon 2016). According to Rincon's UWMP, Rincon would have sufficient supplies available to serve its area during a normal, single dry, and multiple dry years. SDCWA has invested in carryover storage supplies to assist in achieving reliability in dry years.

3.17 Utilities and Service Systems

SDCWA's carryover supplies include regional surface water storage and groundwater storage in the California Central Valley. In years where unanticipated shortages are experienced after expenditure of SDCWA carryover supplies, Rincon would respond to allocations in water demands as mandated by Metropolitan and/or SDCWA. Additionally, Rincon would implement its Drought Response Plan accordingly (Rincon 2016). The Drought Response Plan, which contains four-levels of drought response, provides a response strategy to ensure that, in a time of shortage, available water resources are put to the maximum beneficial use.

In 2015, Rincon's actual water demand and supply was 8,882 acre-feet per year (Rincon 2016). It should be noted that water demands in 2015 were substantially less than those projected in the 2010 UWMP due to mandatory water use restrictions due to emergency drought regulations, increases water prices, and conversion of an SDG&E power plant to recycled water (Rincon 2016). As a comparison, actual water demand in 2010 was 9,380 acre-feet per year (Rincon 2016).

Rincon has estimated that future demands will increase at the same rate as the SANDAG-projected population growth rate for Rincon's service area. The reliable quantities of projected water demands for Years 2025 and 2030 are 8,009 acre-feet per year and 8,229 acre-feet per year, respectively (Rincon 2016). As estimated above, the project would consume approximately 58,514 gallons of water per day, which equates to approximately 21.4 million gallons of water per year or 65.6 acre-feet per year. The estimated water consumption of the proposed project is 0.8% of Rincon's projected water demand for 2025 and 2030.

Rincon has a goal to supply the growth in demand arising from new development through a combination of recycled water and other possible new local sources of supply. Rincon anticipates adding this new supply in increments, reaching a cumulative total of 900 AF/yr by 2035. Per Rincon's UWMP, Rincon will investigate a variety of options for providing new supply, including additional recycled water development, groundwater, and indirect or direct potable reuse. Rincon will construct new storage and transmission mains as the system expands and new development service is required. Reasonably foreseeable future development that is consistent with the land use assumptions made in Rincon's UWMP would have already been accounted for in demand projections. Projects that are inconsistent with the land use assumptions made in Rincon's UWMP would also be subject to CEQA. Because Rincon's UWMP utilizes SANDAG growth projections, the proposed project would not be accounted for in Rincon's projected water demands. However, as discussed in Section 3.12, the project would account for 0.02% of SANDAG's projected population growth.

Rincon's projected water supplies are 12,009 and 12,229 acre-feet per year, which reflect Rincon's goal to supply the growth in demand arising from new development through a combination of increased recycled water usage and other potential local supply projects (Rincon 2016).

3.17 Utilities and Service Systems

Considering existing and estimated future water demand, as described in Rincon's UWMP, it is reasonably foreseeable that Rincon would have sufficient supplies to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years. Further, the project site would be redeveloped in compliance with the California Green Building Code (which implements water efficiency standards for appliances and fixtures), which would further reduce project water usage in combination with Rincon's ongoing water conservation practices. For these reasons, impacts would be considered 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 #2, above, the southern portion of the site would be annexed into VWD's service area, who would provide service to the project. VWD utilizes both MRF and EWPCF for wastewater treatment. Both facilities total an average daily capacity of 45 MGD (VWD 2018; Encina Wastewater Authority 2018a). As estimated above, the proposed project is expected to generate approximately 35,900 gallons of wastewater per day, or approximately 0.08% of MRF's and EWPCF's total daily capacities. As such, the wastewater generated by the project would be nominal and would not exceed current capacities of these wastewater plants (Appendix K2). As such, because the wastewater generated by the proposed project would not exceed current capacities of these wastewater plants, impacts 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 proposed project would result in the generation of solid waste such as scrap lumber, concrete, residual wastes, packing materials, and plastics. The City works with EDCO to promote its construction and demolition material waste removal and recycling program (City of San Marcos 2012). Currently, there are no County-wide Construction and Demolition (C&D) ordinances; however, Jurisdiction representatives are working together to plan a program to divert construction and demolition materials, which may be adopted by county jurisdictions (County of San Diego 2005).

Operation of the proposed project would represent an increase in intensity of uses on the project site, which would likely be associated with increased generation of solid waste. The anticipated solid waste generation from the proposed project was estimated using CalEEMod, Version 2016.3.2, which assumed a total development size of 299,750 square feet for the project. Based on this assumption, the proposed project is estimated to generate approximately 95.13 tons of solid waste per year. 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 lbs/person/day. If the City meets this target, the City is considered in compliance with the 50 percent diversion requirement of AB 939. The most recent data from CalRecycle identifies the annual per capital disposal rate is 5.4 lbs/person/day (CalRecycle 2018b). Thus, the City is exceeding their current targets for diversion.

According to the Specific Plan prepared for the project (Appendix B), non-recyclable waste, including general trash and green materials, would be collected and transported to the Sycamore Sanitary Landfill by EDCO, a licensed hauler. The Sycamore Sanitary Landfill is owned by the City of San Diego and operated by Allied Waste Industries, Inc. According to CalRecycle, the facility has a daily permitted capacity of 5,000 tons per day for solid waste with an anticipated closure date of 2042 (CalRecycle 2018b).

Solid waste generated by the proposed project during operation would be approximately 521 pounds per day, or 0.261 tons per day, assuming no diversion. However, the proposed project would be required to comply with AB 341, which requires a 75 percent diversion rate by 2020. As such, assuming a 75 percent diversion rate, solid waste would be reduced to 130 pounds per day, or 0.065 tons per day, which would consist of 0.0013% of the landfill's daily capacity. Thus, with consideration of the diversion rate, required by AB 341, the project would contribute a minimal amount of solid waste to Sycamore Sanitary Landfill's daily permitted capacity. As such, the proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts would 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?

The proposed project would comply with all federal, state, and local statutes and regulations regarding solid waste. More specifically, the proposed project would comply with AB 341, which requires a 75 percent diversion rate by 2020. 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. As such, the project would comply with existing regulations related to solid waste disposal and would not violate federal, state, or local management and reduction statutes and regulations related to solid waste. Impacts would be less than significant.

3.17.5 Cumulative Impact Analysis

A "cumulative impact" refers to two or more individual effects which, when considered together, are considerable or which 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 projects 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 proposed project's cumulative impact with respect to utilities and services systems, the cumulative analysis is based upon a combined list and plan project approach.

Water

Some of the cumulative projects included in Table 2-3 are within Rincon's service area for potable water service and would contribute to the cumulative demand for water supply and water infrastructure. However, Rincon anticipates the demand of future development through their master planning process. According to Rincon's UWMP, with development of MWD, SDCWA and Rincon's supplies, along with compliance with the Water Conservation Bill of 2009, no water shortages are anticipated within Rincon's service area in single or multiple dry years through 2040. Not all cumulative projects included in Table 2-3 fall into the Rincon's service area; those that do not would be served by neighboring districts.

As described in Section 3.17.4, above, the proposed project would result in less than significant impacts to water supply services. As discussed in Section 3.17.1, Rincon 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 2040 (Rincon 2016). Further, according to Rincon's Water Master Plan, future water system and reliability projects over the next five to ten years will primarily occur within the Harmony Grove Village development, a residential development within the County, and development to the immediate north and south of this cumulative project. Rincon will construct new storage and transmission mains as the system expands and new development will be served, which is an already approved and separate project. These expansions would also strengthen the reliability of existing water systems to access available water storage, enhance fire flow capabilities, and provide increased redundancy. Rincon plans to continue its dependence on SDCWA for potable water supply, and the City of Escondido for recycled water. However, Rincon would seek to offset increases in potable water demand by expanding its recycled water distribution system or developing local water supplies, which are projected to increase from 280 AFY in 2020 to 900 AFY in 2035 (Rincon 2014). Other cumulative projects that are consistent with the land use assumptions made in Rincon's UWMP would have already been accounted for in demand projections. Projects that are inconsistent with the land use assumptions made in Rincon'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 Rincon, required to go towards infrastructure improvements. Thus, cumulative impacts to water services would be less than significant.

Wastewater

Some of the cumulative projects included in Table 2-3 are within VWD's service area for wastewater service and would contribute to the cumulative demand for wastewater treatment infrastructure. VWD anticipates the demand for future development through their master planning process.

3.17 Utilities and Service Systems

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 included in Table 2-3 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 proposed 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.

Solid Waste

Future 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 2018a). 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 2019a); Miramar Landfill, with a remaining capacity of 15.5 million cubic yards since June 2004 (CalRecycle 2019b); Otay Landfill, with a remaining capacity of 21.1 million cubic yards since June 2017 (CalRecycle 2019c); and Ramona Landfill, which is currently at capacity (CalRecycle 2019d). Thus, there is adequate capacity throughout the County to serve future development projects, including those identified on the cumulative project list (Table 2-3). Cumulative impacts for solid waste would be less than significant.

3.17.6 Mitigation Measures

Impacts to utilities and service systems would be less than significant. Thus, no mitigation is required.

3.17.7 Conclusion

Development of the proposed project would result in an incremental increase in the need for water, wastewater, stormwater, and solid waste services. However, as outlined in the project impact analysis above, Section 3.17.4, it is determined that water, wastewater, stormwater, and solid waste services would be adequate and project- and cumulative-level impacts would be less than significant.

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 project, while reducing or avoiding the environmental impacts of the project identified in Section 3.0, 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 Sunrise Specific Plan describe the underlying purpose of the project and provide a basis for identification of a range of reasonable alternatives evaluated in this EIR:

1. Provide a multi-family housing opportunity through a range of unit types, sizes, prices, and number of different bedroom counts, including 2, 3, and 4-bedroom units, to accommodate a full spectrum of family demographics;
2. Contribute to the growing housing needs of the region by providing livable development in proximity to SR-78 and the Nordahl Road Sprinter Station;
3. Create a development which accommodates adequate recreational open space, including common parks, playgrounds, recreational facilities, and private open space that are convenient and accessible within the project site;

4. Provide development standards to ensure the aesthetically attractive appearance of all construction within the project site through integration of land form design, architectural design, unified landscape theme, and recreation areas;
5. Design a safe and efficient circulation system that provides convenient connections to adjoining regional transportation routes, and provides for alternative modes of travel including bicycle and pedestrian options;
6. Implement a maintenance program which will ensure all common areas are maintained to standards set forth in the City's General Plan; and
7. Provide opportunities to contribute to public infrastructure such as roadways and utilities.

4.3 PROJECT ALTERNATIVES CONSIDERED IN THIS EIR

4.3.1 Description of Alternatives

The following alternatives are under consideration for this project:

- No Project/No Development Alternative (Section 4.3.3)
- Existing Land Use Designation Alternative (City of San Marcos) (Section 4.3.4)
- Existing Land Use Designation Alternative (County of San Diego) (Section 4.3.5)
- Reduced Density Alternative (Section 4.3.6)

Alternatives considered and removed from further consideration are summarized in Section 4.4.

4.3.2 Summary of Project Impacts

Project- and cumulative-level impacts associated with implementation of the proposed project are evaluated in Sections 3.1 through 3.17 of this Draft EIR. As identified in Table 1-1, in Chapter 1 (Summary), construction and/or operation of the proposed project would have the potential to cause the following significant but mitigable environmental impacts:

- **Impact BIO-1:** The project would result in the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub.
- **Impact BIO-2:** The project would result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species.
- **Impact CR-1:** Unknown archaeological resources may occur on the project site, and the proposed 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 NOI-1:** Blasting activities related to on-site construction would generate short-term noise levels greater than 82 dBA L_{max} at existing residences adjacent to the project site.
- **Impact NOI-2:** Construction activities would generate short-term noise levels greater than 75 dBA L_{eq} at existing Noise Sensitive Land Uses (NSLU) at the western and southern project boundaries.
- **Impact NOI-3:** Blasting activities related to construction of Sewer Option #2 would generate short-term noise levels greater than 82 dBA L_{max} at existing residences adjacent to the project site.
- **Impact NOI-4:** Blasting activities related to on-site construction would generate short-term groundborne vibration levels that could exceed Caltrans guidance criteria at existing residences adjacent to the project site.
- **Impact NOI-5:** Blasting activities associated with excavation for the proposed Sewer Option #2 would generate short-term vibration levels that exceed applicable guidance criteria.
- **Impact TR-7:** Intersection #8. Barham Drive / Mission Road
- **Impact TCR-1:** There is potential for project construction to adversely affect previously unidentified tribal cultural resources (TCRs).

Further, construction and/or operation of the proposed project would have the potential to cause the following significant and unavoidable environmental impacts:

- **Impact TR-1:** Intersection #2. Rancheros Drive / SR-78 WB Ramps
- **Impact TR-2:** Intersection #7. Barham Drive / Meyers Avenue
- **Impact TR-3:** Intersection #9. Mission Road / Nordahl Road
- **Impact TR-4:** Segment #3. Barham Drive from City Boundary to Meyers Avenue
- **Impact TR-5:** Segment #4. Barham Drive from Meyers Avenue to Mission Road
- **Impact TR-6:** Rancheros Drive to SR-78 WB On-Ramp Meter

4.3.3 No Project/No Development Alternative

Under the No Project/No Development Alternative, the proposed project would not be implemented and the project site would remain undeveloped. Although the City's General Plan currently allows for low density residential development within the southern parcel (as well as the County's General Plan) and light industrial uses within the northern parcel, this alternative assumes that the site would stay in its current, undeveloped condition. Off-site improvements would not occur under this alternative.

The project site is currently undeveloped and supports six vegetation communities/land covers, including wild oats grassland, California buckwheat scrub (including disturbed), black sage scrub, white sage scrub, disturbed habitat, and ornamental. Habitat on the project site would not be impacted under this alternative. The site also consists of a 9-foot-wide unimproved road access easement. This roadway would remain unchanged and would not be improved under this alternative.

4.3.3.1 Comparison of the Effects of the No Project/No Development Alternative to the Proposed 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 proposed project, this alternative would reduce impacts. However, as discussed in Section 3.1.4, the proposed project would be considered a residential project on an infill site within a transit priority area per PRC 21099. Therefore, aesthetic impacts would not be considered significant impacts on the environment. Impacts to aesthetics under this alternative would be reduced to the proposed project.

Air Quality

Under the No Project/No Development Alternative, air emissions associated with project construction including emissions associated with blasting, rock crushing, grading, site preparation, site finishing and building finishing would not occur. Implementation of this alternative would not introduce any uses that could generate emissions. Thus, compared to the proposed project, this alternative would not result in any air quality emissions. However, as discussed in Section 3.2.4, impacts to air quality would be less than significant and no mitigation would be required. Thus, although the No Project/No Development Alternative would reduce air quality emissions on site, this alternative would not eliminate any potential significant impacts to air quality.

Biological Resources

The No Project/No Development Alternative would not require any ground-disturbing activities. As such, the project would not result in the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub (Impact BIO-1), or result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species (Impact BIO-2). Because impacts to biological resources would be avoided under the No Project/No Development Alternative, mitigation measures MM-BIO-1 through MM-BIO-4 would not be implemented or required. Thus, compared to the proposed 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 (Impact CR-1). Further, there would be no potential to disturb previously unidentified human remains that may be present on the project site (Impact CR-2). As such, mitigation measures MM-CR-1 through MM-CR-8 would not be implemented or required. 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 proposed project, this alternative would result in a reduced level of impact to cultural resources as no ground disturbance would occur.

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 rupture of a known active fault or 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 the proposed project.

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 residences 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. Thus, compared to the proposed project, this alternative would result in a reduction of greenhouse gas emissions on site. However, as described in Section 3.7, the proposed project's impacts would be less than significant. Thus, 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 uses would be introduced that could result in the use or generation of hazardous materials. Additionally, this alternative would not require notification about any airport hazards, noise, vibration, or overflights associated with the operation of the McClellan-Palomar Airport. With regards to fire safety, implementation of the Conceptual Evacuation Plan prepared for the project would not be required.

Nonetheless, as identified in the Phase I ESA prepared for the proposed project, low-level concentrations of lead and dichlorodiphenyldichloroethylene (DDE) were detected in select soil samples, and a partially filled plastic container of used motor oil was identified on site, adjacent to a water supply well. Further, one concrete and asphalt rubble pile, trash debris piles, and a groundwater supply well, were found on site. Under the No Project/No Development Alternative, these uses would remain on site, and no remediation of the site would occur. As such, the benefits to hazardous materials would not be realized under this alternative. Nonetheless, because the No Project/No Development Alternative would not introduce additional potential hazardous materials on site, and avoid notification about any airport hazards, noise, vibration, or overflights associated with the operation of the McClellan-Palomar Airport and implementation of an Evacuation Plan, impacts would be reduced compared to the proposed project.

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, the proposed project's impacts to hydrology and water quality would be less than significant. Thus, 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. The General Plan Amendment (GPA) to change the designations of both parcels of the project site to Specific Plan Area (SPA), as well as a rezone of the site would not be required. Further, under this alternative, the southern parcel of the project site would remain under the jurisdiction of the County, and no annexation into the City would be required. Nonetheless, 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 residents and businesses. Nonetheless, because discretionary approvals would not be required under this alternative, impacts to land use and planning would be slightly reduced compared to the proposed 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. As such, Impacts NOI-1 through NOI-4 (temporary noise level increases and groundborne vibration impacts during construction) would not occur and

mitigation measures MM-NOI-1 through MM-NOI-4, outlined in Section 3.11.6, would not be required. As such, noise impacts under this alternative would be reduced as compared to the proposed project.

Population and Housing

The project site is currently vacant and located immediately south and west of existing residential uses. 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, the proposed project would result in no impacts to displacement of existing housing or people, as none are present on site. Further, although the proposed project would add an additional 484 people on site, beyond that allowed under the existing residential land use designations on the project site, the project would result in less-than-significant impacts to substantial population growth in the area. Nonetheless, because no residents or housing would be added to the site under the No Project/No Development Alternative, this alternative would not contribute to meeting regional housing demands. Because this alternative does not result in addition of people on site, beyond the current allowable residential uses on site, impacts would be reduced compared to the proposed project.

Public Services

The No Project/No Development Alternative would not result in an increase in demand for public services, since no homes would be developed and there would not be additional residents moving into the area. Specifically, the No Project/No Development Alternative would not increase the demand for police and fire protection services, nor would this alternative increase demand for park, school, and library services. Further, as no development would occur on site, the Evacuation Plan prepared for the proposed project (see Appendix G3) would not be required.

As stated in Section 3.13, the proposed project would result in less-than-significant impacts to public services. Nonetheless, because this alternative would not result in additional residents on site, impacts on public services would be reduced, compared to the proposed project.

Recreation

Under the No Project/No Development Alternative, there would not be an increased demand for park and recreation services. As such, payment of the City's Public Facility Fees by the applicant would not be required.

However, under this alternative, public recreation and open space amenities proposed as part of the project, including the pool deck, tot lots, bocce ball courts and horseshoe pits, would not be developed. Nonetheless, because this alternative would not result in increased demands to parks and recreation, impacts would be reduced compared to the proposed project.

Transportation

The No Project/No Development Alternative would not result in the generation of vehicular trips, since there would be no development (0 average daily trips (ADT) for this alternative compared to 1,536 ADT trips for the proposed project). Thus, the project-related traffic impacts identified for the project, and stated in Section 4.3.2, above, would not occur.

Compared to the proposed project, the No Project/No Development Alternative would eliminate all impacts identified for the project and mitigation measures MM-TR-1 through MM-TR-7 would not be required or implemented. As discussed in Section 3.15, significant and unavoidable impacts relative to applicable plans, ordinances, or policies for establishing measures of effectiveness of the circulation system would occur at all intersections and roadway segments, with the exception of Barham Drive / Mission Road. Compared to the proposed project, the No Project/No Development Alternative would eliminate all significant and unavoidable traffic impacts identified for the project.

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 TCRs potentially located within the project site. As such, mitigation measures MM-CR-1 through MM-CR-8 would not be implemented or required. Compared to the proposed project, this alternative would result in a reduced level of impact to TCRs.

Utilities and Service Systems

No homes would 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 3.17.4, impacts to utilities and services systems were determined to be less than significant under the proposed project. Because no development would occur under this alternative, the demand for utilities would be eliminated. Thus, impacts to utilities and service systems would be reduced under this alternative, compared to the proposed project.

Conclusion

Since the No Project/No Development Alternative would not develop any homes on the project site, overall impacts would be less than with the proposed project or eliminated entirely. There are some benefits of the project that would not be realized under this alternative, including providing additional housing units as identified in the General Plan. This alternative would not meet any of the project objectives.

4.3.4 Existing Land Use Designation Alternative (City of San Marcos)

Under the Existing Land Use Designation Alternative (City of San Marcos), the project site would be developed per the City's General Plan. The northern parcel of the project site is designated in the City's General Plan as "Low Density Residential" (LDR), while the southern parcel of the site, located within the City's sphere of influence, is designated as "Light Industrial" (City of San Marcos 2018). This alternative assumes that, like the proposed project, the southern parcel would be annexed into the City. The City's General Plan assigns the density/intensity of the LDR designation as 4.1-8.0 dwelling unit/acre (du/a), with allowed land uses that include single-family and duplex residential development, including detached condominiums, clustered homes, courtyard housing, and mobile home parks. Land uses allowed under the "Light Industrial" designation include light manufacturing, processing, assembly, wholesale, office, and research and development laboratories, limited retail, and business services. Uses must not exceed a maximum floor area ratio (FAR) of 0.60 and must be developed as freestanding or as campus-style industrial development (City of San Marcos 2012). Other improvements, such as open space, circulation, and utility connections would occur as required. Off-site improvements beyond those required by mitigation measures would not occur under this alternative.

As such, assuming the maximum intensity described in the City's General Plan, the Existing Land Use Designation Alternative (City of San Marcos) would involve development of 29 single-family residential units within the 3.68-acre northern portion of the site, as well as 282,269 square feet (or 6.5 acres) of light industrial uses within the 10.8-acre southern portion of the site.

The Existing Land Use Designation Alternative (City of San Marcos) would also require ground-disturbance of the entire site. Due to rocky soil conditions present, it is assumed that blasting and rock crushing activities would also be required for this alternative.

4.3.4.1 Comparison of the Effects of the Existing Land Use Designation Alternative (City of San Marcos) to the Proposed Project

Aesthetics

As discussed in Section 3.1.4, the proposed project would be subject to California Public Resources Code (PRC) Section 21099, which dictates that aesthetic impacts of a residential project on an infill site within a transit priority area shall not be considered significant impacts on the environment. Thus, because the proposed project qualifies as a residential project on an infill site within a transit priority area per PRC 21099 (see Section 3.1.4 for details). The Existing Land Use Designation Alternative (City of San Marcos) would incorporate residential and light industrial uses to the site. It should be noted, that under the existing light industrial designation, the maximum allowable height of structures would be 60 feet, which is taller than the proposed project's structures. The light industrial portion of the

project would be considered an employment center and thus would still be subject to California Public Resources Code (PRC) Section 21099. As such, aesthetic impacts of the Existing Land Use Designation Alternative (City of San Marcos) would be comparable to the proposed project.

Air Quality

Under the Existing Land Use Designation Alternative (City of San Marcos), air emissions associated with project construction including emissions associated with blasting, rock crushing, grading, site preparation, site finishing and building finishing would still occur.

Operationally, light industrial could result in greater air quality emissions due to energy and water use, because allowable uses, such as large manufacturing warehouses, generally use more energy than residential land uses. However, emissions from mobile sources typically account for the largest portion of air quality emissions. The project's TIA (Appendix J to the EIR), calculated potential ADT from the existing City General Plan land use designations. The Existing Land Use Designation Alternative (City of San Marcos) is estimated to result in approximately 2,403 ADT; refer to Table 7-2 of Appendix J for additional detail. In comparison, as discussed in Section 3.15.4, the proposed project would generate approximately 1,536 ADT. As such, because this alternative would result in an increase of ADT on site, impacts would be greater when compared to the proposed project.

Biological Resources

As discussed above, the Existing Land Use Designation Alternative (City of San Marcos) would involve ground -disturbance of the entire site, similar to the proposed project. As such, under this alternative, the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub (Impact BIO-1) would still occur. Further, direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species (Impact BIO-2) would occur. Because the same amount of ground disturbance would occur under this alternative, mitigation measures MM-BIO-1 through MM-BIO-4 would still be required. Thus, compared to the proposed project, this alternative would result in the same level of impacts to biological resources as the proposed project.

Cultural Resources

The Existing Land Use Designation Alternative (City of San Marcos) would result in similar ground-disturbance as the proposed project. Therefore, potential to impact unknown archaeological resources potentially located within the project site (Impact CR-1) as well as unidentified human remains (Impact CR-2) would still occur. As such, mitigation measures MM-CR-1 through MM-CR-8 would still be required and implemented. As such, compared to the proposed project, this alternative would result in a similar level of impacts to cultural resources.

Geology and Soils

Under the Existing Land Use Designation Alternative (City of San Marcos), although the project site would be developed with different land uses, ground-disturbance areas would be similar. Development under this alternative would be subject to the same potential seismic hazards such as rupture of a known active fault or seismic ground shaking. Further, as discussed above, due to the underlying geology of the site, the same amount of blasting would be required under this alternative. This alternative would also require abiding by geological recommendations, such as the ones identified in the geotechnical evaluation. Compared to the proposed project, this alternative would result in the same level of impacts to geology and soils.

Greenhouse Gas Emissions

Section 3.7, Greenhouse Gas Emissions, assessed the greenhouse gas emissions of the City's General Plan buildout of the project site, which equates to the Existing Land Use Designation Alternative (City of San Marcos). As shown in Table 3.7-5, this alternative would result in greater greenhouse gas emissions than the proposed project, from all emissions sources. Additionally, as described above, and further detailed in the project's TIA (Appendix J), this alternative would generate greater ADT when compared to the proposed project. As such, impacts to greenhouse gas emissions would be greater when compared to the proposed project.

Hazards/Hazardous Materials

Similar to the proposed project, development-related generation of hazardous materials during project construction are likely; however, existing federal and state standards are in place for the handling, storage and transport of these materials. Because the Existing Land Use Designation Alternative (City of San Marcos) would result in development of light industrial uses on site, it can be assumed that operation of this alternative would result in increased use of hazardous materials on site, compared to household products that would be utilized under the proposed project. However, similar to the proposed project, this alternative would comply with all regulations for the handling, storage and transport of hazardous materials.

Further, as discussed in Section 3.8.4 and the Phase 1 ESA, low-level concentrations of lead and DDE were detected in select soil samples. One concrete and asphalt rubble pile, trash debris piles, a groundwater supply well, and a plastic container of motor oil were found on site. These uses would also be eliminated under this alternative, consistent with all applicable regulations. Similar to the proposed project, this alternative 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. Lastly, the project site is not located in a high severity fire zone and it is assumed that this alternative would also be constructed in accordance with fire codes. Compared to the proposed project, this alternative would result in similar impacts related to hazards and hazardous materials.

Hydrology/Water Quality

As described above, the Existing Land Use Designation Alternative (City of San Marcos) would result in ground disturbance of the entire site. As such, this alternative would introduce impervious surfaces at the site, similar to the proposed project. The existing on-site hydrologic conditions, drainage patterns, and drainage volumes would be modified. It is expected that this alternative would also incorporate all required and applicable best management practices in order to avoid any violations of water quality standards or otherwise modify or adversely affect surface and groundwater quality. As compared to the proposed project, this alternative would result in similar impacts.

Land Use and Planning

Because development of this alternative would be consistent with land uses identified in the City's General Plan, a General Plan Amendment (GPA) would not be required. Nonetheless, because the southern parcel is currently located within the County of San Diego and within the City's Sphere of Influence, annexation of the parcel into the City would be required. Similarly, because the southern parcel is located within the jurisdiction of the County, this parcel is not zoned by the City. Thus, a rezoning of the parcel would still be required under the Existing Land Use Designation Alternative (City of San Marcos). Nonetheless, because this alternative would avoid a GPA, which would be required for the proposed project, impacts would be reduced compared to the proposed project.

Noise

As described above, the Existing Land Use Designation Alternative (City of San Marcos) would also require ground-disturbance of the entire site. Due to rocky soil conditions present, it is assumed that blasting and rock crushing activities would also be required for this alternative. As such, noise impacts during construction on site would still be potentially significant and mitigation measures MM-NOI-1 through MM-NOI-4 would still be required. However, it is likely that this alternative would not require construction of Sewer Option #2; as such noise impacts associated with Sewer Option #2 would be avoided. During operations, the proposed project would result in fewer ADT generated. Although impacts from traffic noise during operation would be less than significant under the proposed project, they would be slightly greater under this alternative. Due to the location of this alternative on the same site, it is expected that interior noise levels would be similar for this alternative. Operationally, the light industrial uses may result in noise generation during working hours, particularly with components such as outdoor work yards. While it is likely that such industrial uses would generate more noise than a residential development, it would be expected that the uses would comply with the City's noise ordinance regarding generation of noise at the property line and appropriate mitigation would be implemented. As compared to the proposed project, this alternative would result in similar impacts.

Population and Housing

The Existing Land Use Designation Alternative (City of San Marcos) would introduce less residential development on site. Thus, this alternative would result in decreased direct growth inducement. However, this alternative would still involve development of an undeveloped site, which would introduce additional population through the residential portion and additional employees and customers through the light industrial portion. Additionally, this alternative would not contribute to the City's housing requirements to the same degree as the proposed project. As such, this alternative would result in fewer additional people on site, and impacts would be reduced compared to the proposed project.

Public Services

Similar to the proposed project, the Existing Land Use Designation Alternative (City of San Marcos) would result in an increase in demand for public services, due to the construction of residential and light industrial development. Specifically, this alternative would increase the demand for police and fire protection services, as well as park, school, and library services over existing conditions. This alternative would construct 29 residential dwellings, as compared to the proposed project's 192 units, so the demand for services would be significantly reduced. Although it is assumed that the light industrial portion of the project would also result in added demand for public services, it is estimated that this alternative would result in fewer total impacts to public services, including schools.

Recreation

Similar to the proposed project, the Existing Land Use Designation Alternative (City of San Marcos) would result in an increase in demand for parks and recreation services over existing conditions. This alternative would construct 29 residential dwellings, as compared to the proposed project's 192 units, thus the demand for services would be substantially reduced. This alternative would include required usable open space for the residential portion, as well as contribute development fees for the provision of public parks and open space within the City, similar to the proposed project. Nonetheless, this alternative includes addition of fewer residents on site who are expected to use recreational facilities; thus, impacts would be reduced compared to the proposed project.

Transportation

As discussed above, the Existing Land Use Designation Alternative (City of San Marcos) is estimated to result in 2,403 ADT. In comparison, as discussed in Section 3.15.4, the proposed project would generate approximately 1,536 ADT. As such, this alternative would result in an increase of ADT. Therefore, because this alternative would result in a greater ADT, it is assumed that this alternative would result in the greater impacts to traffic, as identified in Section 4.3.2, above. As such, it is anticipated that mitigation measures MM-TR-1 through MM-TR-7 would still be required, as well as

potential new mitigation that may be required for additional impacts. Lastly, similar to the proposed project, the improvements included in the proposed mitigation measures MM-TR-1 through MM-TR-6 would be located within the jurisdiction and control of Caltrans or the City of Escondido, and neither the applicant nor the City can assure that Caltrans or the City of Escondido will permit the improvement to be made. As such, impacts to traffic under both the proposed project and the Existing Land Use Designation Alternative (City of San Marcos) would be significant and unavoidable.

Tribal Cultural Resources

This alternative would result in new development within a similar footprint of project site. As such, this alternative would have similar potential to affect TCRs as the proposed project. This alternative would require implementation of mitigation measures MM-CR-1 through MM-CR-8. Thus, impacts to TCRs would be similar to the proposed project.

Utilities and Service Systems

The Existing Land Use Designation Alternative (City of San Marcos) would increase demand for water service, wastewater service, and solid waste over existing conditions due to development of residential units and light industrial uses. This alternative would construct 29 residential dwellings, as compared to the proposed project's 192 units. Thus, the demand for services from the residential component of this alternative would be reduced. However, demand for water service, wastewater service, and solid waste would also be generated from 282,269 square feet of light industrial uses proposed under this alternative. As such, demand for utilities and service systems would be comparable to the proposed project under the Existing Land Use Designation Alternative (City of San Marcos).

Conclusion

This alternative would decrease the number of residential dwelling units from 192 to 29. However, this alternative would also include 282,269 square feet of light industrial uses. The reduction of residential development would result in less operational-related impacts, including trip generation, vehicular emissions and vehicular noise, and the need for public services and utilities. Because development of the Existing Land Use Designation Alternative (City of San Marcos) would include grading and development of the same site, construction-related impacts would be similar to the proposed project.

This alternative would meet most of the project objectives, but not to the same degree as the proposed project. For instance, because this alternative proposes single-family residential units, this alternative would not provide multi-family housing opportunities through a range of types, sizes, and number of bedroom counts. This alternative would also not aid the city in achieve its Regional Housing Needs Assessment allocation to the same degree as the proposed project.

4.3.5 Existing Land Use Designation Alternative (County of San Diego)

As described in Section 2.2, the southern parcel of the project site is located in the County of San Diego's jurisdiction. This parcel is designated "Semi-Rural Residential" (SR-1) in the County's General Plan (County of San Diego 2011). Land uses allowed under the Semi-Rural Residential designation include residential units with a maximum density of one unit per 2, 4, or 8 gross acres (County of San Diego 2011).

The Existing Land Use Designation Alternative (County of San Diego) assumes that the southern portion of the site will remain under the jurisdiction of the County. Assuming that development would occur at one unit per 2 acres, the southern parcel would be developed with 5 single-family residences.

Similar to the Existing Land Use Designation Alternative (City of San Marcos), the northern parcel of the site, located within the City, would be developed with 29 single-family residential units. Other improvements, such as open space, circulation, and utility connections would occur as required. Off-site improvements beyond those required by mitigation measures would not occur under this alternative.

4.3.5.1 Comparison of the Effects of the Existing Land Use Designation Alternative (County of San Diego) to the Proposed Project

Aesthetics

Under the Existing Land Use Designation (County of San Diego) Alternative, the site would be developed with fewer residences. However, alterations in the site's visual character would still occur. Compared to the proposed project, this alternative would result in similar impact. As discussed in Section 3.1.4, the proposed project would be considered a residential project on an infill site within a transit priority area per PRC 21099. Therefore, aesthetic impacts would not be considered significant impacts on the environment under the proposed project or this alternative.

Air Quality

The Existing Land Use Designation Alternative (County of San Diego) would result in reduced development on the project site as compared to the proposed project. Air quality emissions associated with construction activities could be less than the proposed project as less earthwork activity is expected due to a reduced project footprint. Air quality emissions associated with electricity and natural gas use, water use, and solid waste handling associated with future residences are anticipated to be less than the proposed project, due to the construction of fewer residences under this alternative. Similarly, due to decreased development on site, this alternative would generate fewer automobile trips, resulting in a corresponding decrease in air quality emissions. Using the San Diego Association of Governments (Not So) Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002), single-family detached units are

estimated to result in 10 trips per dwelling unit per day. Therefore, this alternative would generate an estimated 340 ADT. As discussed in Section 3.2, impacts to air quality from the proposed project would be less than significant and no mitigation would be required. Thus, compared to the proposed project, this alternative results in reduced but similar air quality emissions.

Biological Resources

The Existing Land Use Designation Alternative (County of San Diego) would result in development of 29 single-family residential units on the northern portion of the site, as well as 5 additional single-family residences on the southern portion, or one unit per 2 acres. As such, although grading of the entire northern parcel would occur under this alternative, this alternative would result in less ground disturbance on the southern parcel. As such, although this alternative would still result in potential removal of black sage scrub, white sage scrub, and California buckwheat scrub (Impact BIO-1), the area of disturbance of this habitat may be reduced. Similarly, although this alternative may still result in direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species (Impact BIO-2), due to less disturbance of the site, impacts may be reduced. Nonetheless, due to the presence of special-status plant and wildlife species and riparian habitat on site, significant impacts to biological resources would still occur and mitigation measures MM-BIO-1 through MM-BIO-4 would still be required. As such, the Existing Land Use Designation Alternative (County of San Diego) would result in impacts to biological resources that are similar to that of the proposed project.

Cultural Resources

As discussed above, this alternative would result in less ground disturbance on the southern parcel. Due to less grading, the potential to uncover unknown archaeological resources (Impact CR-1) and human remains (Impact CR-2) would be reduced. Nonetheless, the potential to uncover and disturb these resources would still occur under this alternative. As such, mitigation measures MM-CR-1 through MM-CR-8 would still be required. As such, the Existing Land Use Designation Alternative (County of San Diego) would result in impacts to cultural resources that are similar to that of the proposed project.

Geology and Soils

Under the Existing Land Use Designation Alternative (County of San Diego), the project site would be developed with 34 residential units, compared to 192 units proposed by the project. Existing topography and on-site soils would be graded and modified to prepare the site for development. Less earthwork activity is anticipated under this alternative since the project footprint would be reduced. However, a geotechnical investigation and geotechnical recommendations would still be required, as applicable. As such, compared to the proposed project, this alternative would result in the same level of impacts to geology and soils and impacts would be less than significant.

Greenhouse Gas Emissions

Under the Existing Land Use Designation Alternative (County of San Diego), greenhouse gas emissions associated with construction activities could be less than the proposed project as less earthwork activity is expected due to a reduced project footprint. Greenhouse gas emissions associated with electricity and natural gas use, water use, and solid waste handling associated with future residences are anticipated to be less than the proposed project, due to the construction of fewer residences under this alternative. Similarly, due to decreased development on site, this alternative would generate fewer automobile trips, resulting in a corresponding decrease in greenhouse gas emissions associated with vehicular trips. However, as discussed in Section 3.7, impacts to greenhouse gas emissions from the proposed project would be less than significant. Thus, compared to the proposed project, this alternative results in slightly reduced but similar greenhouse gas emissions.

Hazards/Hazardous Materials

The Existing Land Use Designation Alternative (County of San Diego) could result in the use, transportation, or generation of hazardous materials. Similar to the proposed project, development-related generation of hazardous materials during project construction are likely; however, existing federal and state standards are in place for the handling, storage, transport, removal, and disposal of these materials consistent with applicable regulations. During project operation, routinely used household products such as cleaners, paints, oils, and batteries are anticipated, and would be reduced under this alternative due to development of fewer units. Nonetheless, all hazardous waste would be disposed of in accordance with the household hazardous waste programs within the Integrated Waste Management Plan of the County of San Diego. Lastly, as discussed in Section 3.8, the project site is not located in a high fire severity zone. While a conceptual fire evacuation plan was prepared for the proposed project, it is expected that a similar plan would be prepared for this alternative. Compared to the proposed project, this alternative would result in slightly reduced use of hazardous materials; however, similar impacts related to hazards and hazardous materials would occur.

Hydrology/Water Quality

Under the Existing Land Use Designation Alternative (County of San Diego), development of 34 residences and associated impervious surfaces would occur. Although this alternative would result in a reduced development footprint, the existing on-site hydrologic conditions, drainage patterns, and drainage volumes would still be modified. Similar to the proposed project, it is expected that this alternative would not cause a violation of any water quality standards or otherwise modify or adversely affect surface and groundwater quality through the incorporation of standard best management practices that are also applicable to the proposed project. Nonetheless, because the development footprint would be reduced under this alternative, impacts to hydrology and water quality would be reduced compared to the proposed project.

Land Use and Planning

This alternative would not require annexation of the southern parcel from the County into the City. Further, because development of this alternative would be consistent with land uses identified in the City's and the County's General Plan, a GPA would not be required. Lastly, rezoning of the site would not be required. As such, this alternative would avoid a GPA, annexation, and a rezone of the site. However, as discussed in Section 3.10, the proposed project would not result in significant environmental impacts due to a conflict with a plan, policy, or regulation. Thus, impacts would be the same as the proposed project.

Noise

The project site is currently vacant, and does not generate any noise into the surrounding area. Under the Existing Land Use Designation Alternative (County of San Diego), the project site would be developed with 34 single-family residential units compared to 192 multi-family residential units that would be developed under the proposed project. Construction noise is anticipated to be less than the proposed project since the development footprint would be reduced. However, construction activities associated with this alternative would still require blasting and the use of a rock crusher, and could still result in the generation of substantial temporary increase in ambient noise and groundborne vibration during construction at existing noise-sensitive uses. As such, mitigation similar to MM-NOI-1 through MM-NOI-4, in section 3.11.6 of the EIR, which includes preparation of a blasting and construction noise management plan, would still be incorporated. However, overall, construction noise impacts would be reduced as compared to the proposed project due to extent of improvements and duration of the construction phase.

Operational-related noise generated by the proposed project was estimated to be less than significant. This alternative would result in approximately 340 ADT, resulting in a reduced operational traffic noise when compared to the proposed project. Interior noise levels under this alternative would likely not exceed significance, similar to the proposed project. Thus, operational-noise levels on site would be reduced compared to the proposed project.

Population and Housing

The Existing Land Use Designation Alternative (County of San Diego) would add 34 residences to the project site compared to 192 residences, proposed under the project. As discussed in Section 3.13.4, the proposed project is estimated to generate approximately 603 persons¹ (DOF 2018). Using the same generation rate of 3.14 residents per unit, this alternative would generate approximately 107 persons, which accounts for 17 percent of the population generated by the

¹ Project population is based upon a generation rate of 3.14 residents per unit, which is the rate identified by the State of California, Department of Finance (2018).

proposed project. Further, this alternative would be consistent to the City's and County's General Plan and thus would not result in additional growth outside of what was accounted for in these documents. As described in Section 3.12, the proposed project would not result in significant impacts to population and housing. Nonetheless, because population on site would be significantly reduced under this alternative, impacts would be reduced compared to the proposed project.

Public Services

As discussed above, this alternative would result in 17 percent of the population generated by the proposed project. Although this alternative would still result in an increase in demand for public services, due to the construction of residential development, the demand for services would be reduced. As described in Section 3.13, the proposed project would not result in significant impacts to public services, including fire and police protection, parks, schools, and library facilities. Nonetheless, because of the development of fewer units, this alternative would result in fewer impacts on public services.

Recreation

Similar to the proposed project, the Existing Land Use Designation Alternative (County of San Diego) would result in an increase in demand for parks and recreation services. However, as described above, this alternative would result in development of fewer residential units compared to the proposed project.. This alternative would include required usable open space for the residential land uses, as well as contribute development fees for the provision of public parks and open space within the City, similar to the proposed project, and the County. Nonetheless, compared to the proposed project, this alternative would place a reduced demand on existing residential amenities and would provide reduced on-site park amenities for future residents. Impacts to recreation would be reduced under this alternative.

Transportation

The Existing Land Use Designation Alternative (County of San Diego) would result in the generation of less vehicular traffic than the proposed project, due to the development of 34 residential units, as compared to the 192 units, to be developed under the proposed project. This alternative would generate approximately 340 trips daily (trip generation rate of 10 trips/unit/day), compared to 1,536 daily trips generated by the proposed project. While trip distribution would be similar, the amount of traffic would be significantly reduced compared to the proposed project. Some, but not all, transportation impacts would be avoided. The following impacts would be avoided:

- Intersections:
 - Rancheros Drive / SR-78 WB (near-term)
 - Mission Road / Nordahl Road (near- and long-term)

- Segments:
 - Barham Drive: City boundary to Meyers Avenue (near-term)
 - Barham Drive: Meyers Avenue to Mission Road (near-term)
- Freeway on-ramp: Rancheros Drive to SR-78 WB On-Ramp Meter (near-term)

However, all other transportation impacts identified in Section 3.15, Transportation, would still occur. Thus, while the Reduced Density Alternative would result in reduced transportation impacts compared to the proposed project, this alternative would still result in significant and unavoidable impacts to transportation.

Tribal Cultural Resources

Due to reduced construction activities, the potential to uncover unknown TCRs would be reduced. Nonetheless, the potential to uncover and disturb these resources would still occur under this alternative. As such, this alternative would have similar potential to affect TCRs as the proposed project. This alternative would require implementation of mitigation measures MM-CR-1 through MM-CR-8. Thus, impacts to TCRs would be similar to the proposed project.

Utilities and Service Systems

This alternative would increase demand for water service, wastewater service, and solid waste due to development of residential units, compared to existing conditions. This alternative would construct 34 residential dwellings, as compared to the proposed project's 192 units. Thus, the demand for services from the residential component of this alternative would be reduced. As discussed in Section 3.17, with payment of all required fees, impacts to utilities and service systems would be less than significant. Nonetheless, because this alternative would consist of a significant reduction in demand for utilities and service systems, compared to the proposed project, impacts would be reduced.

Conclusion

This alternative would decrease the number of residential lots from 192 to 34. This results in a corresponding decrease in operational-related impacts, including trip generation, vehicular emissions and vehicular noise, and the need for public services and utilities. Construction related impacts would also be reduced, as construction-related noise, traffic, and air quality and GHG emissions would be reduced. This alternative would avoid significant and unavoidable impacts to transportation.

This alternative would meet most of the project's objectives, but to a lesser degree than the project. However, by developing single-family units, this alternative would not provide a multi-family housing opportunity through a range of unit types, sizes, and number of different bedroom counts, including 2, 3, and 4-bedroom units, as well as a range of affordability to accommodate a full spectrum of family demographics. Further, because this alternative would still be located partially within the County of San

Diego, it would not implement a maintenance program which will ensure all common areas are maintained to standards set forth in the City's General Plan. However, the proposed project would accommodate adequate recreational open space, design a safe and efficient circulation system, and provide opportunities to contribute to public infrastructure such as roadways and utilities.

4.3.6 Reduced Density Alternative

The Reduced Density Alternative would result in the development of the site similar to that of the proposed project, but with a reduced number of residential dwelling units. This alternative was determined by the number of residential units that would avoid some, but not all, potentially significant transportation impacts. Therefore, the Reduced Density Alternative would include the development of 74 multi-family residential dwelling units, or 118 units fewer than the proposed project. Open space, recreational facilities, and landscaping would be provided throughout the project site, similar to the proposed project. The Reduced Density Alternative would also require ground-disturbance of the majority of the site. Due to rocky soil conditions present, it is assumed that blasting and rock crushing activities would also be required for this alternative. This alternative also assumes annexation into the City of San Marcos. Lastly, it is assumed that access to the site would still be provided via an off-site driveway connecting to Meyers Avenue within the City of Escondido.

4.3.5.1 Comparison of the Effects of the Reduced Density Alternative to the Proposed Project

Aesthetics

Under the Reduced Density Alternative, the site would be developed with fewer residences. However, alterations in the site's visual character would still occur. Compared to the proposed project, this alternative would result in a similar impact. As discussed in Section 3.1.4, the proposed project would be considered a residential project on an infill site within a transit priority area per PRC 21099. Therefore, aesthetic impacts would not be considered significant under the proposed project or this alternative.

Air Quality

The Reduced Density Alternative would result in reduced development on the project site as compared to the proposed project. Air quality emissions associated with construction activities could be less than the proposed project as less earthwork activity is expected due to a reduced intensity of development. Air quality emissions associated with electricity and natural gas use, water use, and solid waste handling associated with future residences are anticipated to be less than the proposed project, due to the construction of fewer residences under this alternative. Similarly, due to decreased development on site, this alternative would generate fewer automobile trips, resulting in a corresponding decrease in air quality emissions. Using the San Diego Association of Governments (Not So) Brief Guide to

Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002), multi-family units are estimated to result in 8 trips per dwelling unit per day. Therefore, this alternative would generate an estimated 592 ADT. Note, this is the same trip rate applied to the proposed project. As discussed in Section 3.2, impacts to air quality from the proposed project would be less than significant and no mitigation would be required. Thus, compared to the proposed project, this alternative results in reduced but similar air quality emissions.

Biological Resources

As discussed above, the Reduced Density Alternative would involve ground -disturbance of the majority site. As such, based on distribution of existing vegetation ground cover, this alternative is likely to require the removal of 4.52 acres of black sage scrub, 0.07 acres of white sage scrub, and 1.93 acres of California buckwheat scrub, similar to the proposed project. As such, Impact BIO-1 would still occur. Further, direct impacts to special-status wildlife species, including one single male coastal California gnatcatcher, and suitable habitat for these species (Impact BIO-2) would occur. Because the same amount of ground disturbance would occur under this alternative, mitigation measures MM-BIO-1 through MM-BIO-4 would still be required. Thus, compared to the proposed project, this alternative would result in similar impacts to biological resources as the proposed project.

Cultural Resources

The Reduced Density Alternative would result in similar ground-disturbance as the proposed project. Therefore, potential to impact unknown archaeological resources potentially located within the project site (Impact CR-1) as well as unidentified human remains (Impact CR-2) would still occur. As such, mitigation measures MM-CR-1 through MM-CR-8 would still be required and implemented. As such, compared to the proposed project, this alternative would result in a similar level of impacts to cultural resources.

Geology and Soils

Under the Reduced Density Alternative, ground-disturbance areas would be similar to that of the proposed project. Development under this alternative would be subject to the same potential seismic hazards such as rupture of a known active fault or seismic ground shaking. Further, as discussed above, due to the underlying geology of the site, the same amount of blasting would be required under this alternative. This alternative would also require abiding by geological recommendations, such as the ones identified in the geotechnical evaluation. Compared to the proposed project, this alternative would result similar impacts to geology and soils.

Greenhouse Gas Emissions

Under the Reduced Density Alternative, greenhouse gas emissions associated with construction activities could be less than the proposed project due to the overall reduction in land use intensity. Greenhouse gas emissions associated with electricity and natural gas use, water use, and solid waste handling associated with future residences are anticipated to be less than the proposed project, due to the construction of fewer residences under this alternative. Similarly, due to decreased development on site, this alternative would generate fewer automobile trips, resulting in a corresponding decrease in greenhouse gas emissions associated with vehicular trips. However, as discussed in Section 3.7, impacts to greenhouse gas emissions from the proposed project would be less than significant. Thus, compared to the proposed project, this alternative would result in a reduction in greenhouse gas emissions.

Hazards/Hazardous Materials

The Reduced Density Alternative could result in the use, transportation, or generation of hazardous materials. Similar to the proposed project, development-related generation of hazardous materials during project construction are likely; however, existing federal and state standards are in place for the handling, storage, transport, removal, and disposal of these materials consistent with applicable regulations. During project operation, routinely used household products such as cleaners, paints, oils, and batteries are anticipated, and would be reduced under this alternative due to development of fewer units. Nonetheless, all hazardous waste would be disposed of in accordance with the household hazardous waste programs within the Integrated Waste Management Plan of the County of San Diego. As discussed in Section 3.8, the project site is not located in a high fire severity zone. While a conceptual fire evacuation plan was prepared for the proposed project, it is expected that a similar plan would be prepared for this alternative. Compared to the proposed project, this alternative would result in slightly reduced use of hazardous materials; however, similar impacts related to hazards and hazardous materials would occur.

Hydrology/Water Quality

Under the Reduced Density Alternative, development of residences and associated impervious surfaces would occur. Although this alternative would result in a reduced impervious footprint, the existing on-site hydrologic conditions, drainage patterns, and drainage volumes would still be modified. Similar to the proposed project, it is expected that this alternative would not cause a violation of any water quality standards or otherwise modify or adversely affect surface and groundwater quality through the incorporation of standard best management practices that are also applicable to the proposed project. Nonetheless, because the development footprint would be reduced under this alternative, impacts to hydrology and water quality would be reduced compared to the proposed project.

Land Use and Planning

Similar to the proposed project, because development of this alternative would not be consistent with land uses identified in the City's General Plan, a General Plan Amendment (GPA) would be required. Additionally, because the southern parcel is currently located within the County of San Diego and within the City's Sphere of Influence, annexation of the parcel into the City would be required. Similarly, because the southern parcel is located within the jurisdiction of the County, this parcel is not zoned by the City. Thus, a rezoning of the parcel would still be required under this alternative. While the Reduced Density Alternative would result in fewer residences developed on site, it would still require similar land use alternations as the proposed project. Impacts would be similar to the proposed project.

Noise

The project site is currently vacant, and does not generate any noise into the surrounding area. Under the Reduced Density Alternative, the project site would be developed with 74 multi-family residential units compared to 192 multi-family residential units that would be developed under the proposed project. Construction noise is anticipated to be less than the proposed project since the overall development intensity would be reduced. However, construction activities associated with this alternative would still likely require blasting and the use of a rock crusher, and could still result in a substantial temporary increase in ambient noise level and groundborne vibration at existing noise-sensitive uses. As such, mitigation similar to MM-NOI-1 through MM-NOI-4, in Section 3.11.6 of the EIR, which includes preparation of a blasting and construction noise management plan, would still be incorporated.

Operational-related noise generated by the proposed project was estimated to be less than significant. This alternative would result in approximately 592 ADT, resulting in a reduced operational traffic noise when compared to the proposed project. Interior noise levels under this alternative would likely not exceed significance, similar to the proposed project. Thus, operational-noise levels on site would be reduced compared to the proposed project. Thus, impacts to noise would be similar when compared to the proposed project.

Population and Housing

The Reduced Density Alternative would add 74 residences to the project site compared to 192 residences, proposed under the project. As discussed in Section 3.13.4, the proposed project is estimated to generate approximately 603 persons² (DOF 2018). Using the same generation rate of 3.14 residents per unit, this alternative would generate approximately 232 persons. Further, this alternative would not be consistent to the City's General Plan and thus would result in additional

² Project population is based upon a generation rate of 3.14 residents per unit, which is the rate identified by the State of California, Department of Finance (2018).

growth outside of what was accounted for in these documents. As described in Section 3.12, the proposed project would not result in significant impacts to population and housing. Nonetheless, because population on site would be significantly reduced under this alternative, impacts would be reduced compared to the proposed project.

Public Services

As discussed above, this alternative would result in a reduced population compared to the proposed project. Although this alternative would still result in an increase in demand for public services, due to the construction of residential development, the demand for services would be reduced. As described in Section 3.13, the proposed project would not result in significant impacts to public services, including fire and police protection, parks, schools, and library facilities. Nonetheless, because of the development of fewer units, this alternative would result in reduced impacts on public services.

Recreation

Similar to the proposed project, the Reduced Density Alternative would result in an increase in demand for parks and recreation services. However, as described above, this alternative would result in development of fewer residential units compared to the proposed project. This alternative would include required usable open space for the residential land uses, as well as contribute development fees for the provision of public parks and open space within the City, similar to the proposed project, and the County. Nonetheless, compared to the proposed project, this alternative would place a reduced demand on existing residential amenities. Impacts to recreation would be reduced under this alternative.

Transportation

The Reduced Density Alternative would result in the generation of less vehicular traffic than the proposed project, due to the development of 74 residential units, as compared to the 192 units, to be developed under the proposed project. This alternative would generate approximately 592 trips daily (trip generation rate of 8 trips/unit/day), compared to 1,536 daily trips generated by the proposed project. While trip distribution would be similar, the amount of traffic would be significantly reduced compared to the proposed project and some, but not all, transportation impacts would be avoided. Near-term impacts to the intersection of Mission Road / Nordahl Road and the on-ramp at Rancheros Drive and SR-78 westbound would be avoided. However, all other transportation impacts would still occur. Thus, while the Reduced Density Alternative would result in reduced transportation impacts compared to the proposed project, this alternative would still result in significant and unavoidable impacts to transportation.

Tribal Cultural Resources

The Reduced Density Alternative would result in similar ground-disturbance as the proposed project. Therefore, potential to impact unknown TCRs potentially located within the project site would still occur. As such, mitigation measures MM-CR-1 through MM-CR-8 would still be required and implemented. As such, compared to the proposed project, this alternative would result in a similar level of impacts to TCRs.

Utilities and Service Systems

This alternative would increase demand for water service, wastewater service, and solid waste due to development of residential units, compared to existing conditions. This alternative would construct 74 residential dwellings, as compared to the proposed project's 192 units. Thus, the demand for services from the residential component of this alternative would be reduced. As discussed in Section 3.17, with payment of all required fees, impacts to utilities and service systems would be less than significant. Nonetheless, because this alternative would consist of a significant reduction in demand for utilities and service systems, compared to the proposed project, impacts would be reduced.

Conclusion

This alternative would decrease the number of residential units from 192 to 74 as compared to the proposed project. This results in a corresponding decrease in operational-related impacts, including trip generation, vehicular emissions and vehicular noise, and the need for public services and utilities. Construction related impacts would also be reduced, as construction-related noise, transportation, and air quality and GHG emissions would be reduced. However, this alternative would still result in significant and unavoidable impacts to transportation.

This alternative would meet most of the project's objectives, but to a lesser degree than the proposed project. However, by developing single-family units, this alternative would not provide a multi-family housing opportunity through a range of unit types, sizes, and number of different bedroom counts, including 2, 3, and 4-bedroom units, as well as a range of affordability to accommodate a full spectrum of family demographics. Further, because this alternative would still be located partially within the County of San Diego, it would not implement a maintenance program which will ensure all common areas are maintained to standards set forth in the City's General Plan. However, the proposed project would accommodate adequate recreational open space, design a safe and efficient circulation system, and provide opportunities to contribute to public infrastructure such as roadways and utilities.

4.4 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 above in Section 4.3, Project Alternatives Considered in this EIR. The following describes other alternatives considered by the City but dismissed from further evaluation in this EIR, and a brief description of the reasons for their rejection.

4.4.1 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 of an approximately equivalent size to the project site that could be redeveloped with a residential project; however, the project applicant does not control another site within the City of comparable land area that is available for development of the proposed project. 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. It should also be noted that the project site is surrounded on all sides by development. As such, an alternative location was ultimately rejected from further analysis in the EIR.

4.4.2 Full Transportation Impact Avoidance Alternative

The City has considered an alternative to fully avoid all significant transportation impacts. The traffic consultant, Linscott, Law & Greenspan, Engineers (LLG), assessed the residential unit count threshold at which all identified transportation impacts would be avoided. To fully avoid all transportation impacts, only one (1) dwelling unit could be developed on site. As discussed in Section 3.15, Transportation, the project would result in a potentially significant impact at the unsignalized intersection of Barham Drive / Meyers Avenue. In the existing condition, this intersection currently exhibits a Level of Service (LOS) F, with delay greater than 100 seconds per vehicle, in both the AM and PM peak hours. As such, this intersection is highly sensitive to the addition of new traffic relative to the impact significance criteria (refer to Section 3.15.3). The addition of trips from a single dwelling unit developed on the project site would result in a potentially significant impact at this intersection. All other potentially significant impacts to the roadway system would be avoided with the exception of this intersection. This single unit alternative would not meet any of the project objectives and would not be considered an efficient use of the project site. Therefore, this alternative was rejected from further analysis in the EIR.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 4-1 provides a qualitative comparison of the impacts for each Alternative compared to the proposed 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 proposed project, the Existing Land Use Development Alternative (County of San Diego) is the environmentally superior alternative because it would reduce various impacts and avoid some, but not all, significant and unavoidable impacts to transportation. Although impacts would be reduced under the Existing Land Use Development (County of San Diego) Alternative compared to the proposed project, mitigation measures would still be required to mitigate impacts to biological resources, cultural resources, noise, tribal cultural resource, and transportation (one intersection). Further, by developing single-family units, this alternative would not provide a multi-family housing opportunity through a range of unit types, affordable price points, sizes, and number of different bedroom counts, including 2, 3, and 4-bedroom units to accommodate a full spectrum of family demographics. Also, because this alternative would still be located partially within the County of San Diego, it would not implement a maintenance program unlike the project, which will ensure all common areas are maintained to standards set forth in the City's General Plan.

Table 4-1
Comparison of Impacts of Proposed Project and Alternatives

Environmental Topic	Proposed Project	No Project/No Development Alternative	Existing Land Use Designation Alternative (City of San Marcos)	Existing Land Use Designation Alternative (County of San Diego)	Reduced Density Alternative
Aesthetics	LTS	No Impact (Reduced)	LTS (Same)	LTS (Same)	LTS (Same)
Air Quality	LTS	No Impact (Reduced)	LTS (Greater)	LTS (Reduced)	LTS (Reduced)
Biological Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Geology and Soils	LTS	No Impact (Reduced)	LTS (Same)	LTS (Same)	LTS (Same)
Greenhouse Gas Emissions	LTS	No Impact (Reduced)	LTS (Greater)	LTS (Reduced)	LTS (Reduced)
Hazards and Hazardous Materials	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Same)
Hydrology and Water Quality	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Reduced)
Land Use	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Same)	LTS (Same)
Noise	LTSM	No Impact (Reduced)	LTSM (Same)	LTS (Reduced)	LTS (Same)
Population and Housing	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Public Services	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Recreation	LTS	No Impact (Reduced)	LTS (Reduced)	LTS (Reduced)	LTS (Reduced)
Transportation	LTSM and SU	LTS (Reduced)	SU (Greater)	SU (Reduced)	SU (Reduced)
Tribal Cultural Resources	LTSM	No Impact (Reduced)	LTSM (Same)	LTSM (Same)	LTSM (Same)
Utilities and Service Systems	LTS	No Impact (Reduced)	LTS (Same)	LTS (Reduced)	LTS (Reduced)

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

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5 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

The City of San Marcos completed an Initial Study for the proposed project in accordance with Sections 21000-21189 of the Public Resources Code and Section 15063 of the California Environmental Quality Act (CEQA) Guidelines. A Notice of Preparation (NOP) was prepared by the City and mailed to applicable agencies, organizations, neighboring property owners, and other interested parties.

As required by Section 15128 of the CEQA Guidelines, the following is a discussion of the environmental effects that were considered as a part of the Initial Study but were determined to have “No Impact”, and, therefore, are not discussed in detail in the environmental impact report (EIR). Agriculture/Forestry Resources, Mineral Resources, and Wildfire were the only environmental issue areas eliminated, and are briefly discussed below.

5.1 AGRICULTURE AND FORESTRY RESOURCES

As discussed in the Initial Study prepared for the proposed project (included as Appendix A), a portion of the project site was previously used for agricultural use; however, on-site agriculture has been subsequently abandoned. Accordingly, Dudek conducted a California Land Evaluation and Site Assessment (LESA) analysis (Appendix L) for the project site and determined that the site does not contain significant agricultural resources. Additionally, the project site is designated as “Urban and Built-Up Land” and “Other Land” by the Farmland Mapping and Monitoring Program (DOC 2018). No impact would occur regarding the conversion of designated Farmland to non-agricultural use.

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. Therefore, implementation of the proposed 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 exists within the vicinity of the project site. However, the proposed project, similar to other surrounding development, would not result in substantial changes that could result in the conversion of farmland to non-agricultural use. The project site is surrounded entirely by developed land, with the exception of one vacant lot adjacent to the northeast corner of the site. This vacant lot is designated “Planned Development – Industrial” by the City of Escondido and the existing developments surrounding the project site are residential and commercial uses. As a residential use, the project would be congruent with surrounding developments. Given the extent of development surrounding the project site, it is not likely that development of the project site would result in the conversion of existing farmland in the vicinity of the project site. No impact would occur.

5.2 MINERAL RESOURCES

As discussed in the Initial Study prepared for the proposed project (included as Appendix B), 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.

The project site is classified as MRZ-3 (DOC 1996). 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, Mt. Whitney, and Franks Peak; and small portions in the northern Sphere of Influence within Twin Oaks Valley Neighborhood. These locations do not overlap with the proposed 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 proposed project, there would be no impact to mineral resources.

5.3 WILDFIRE

As discussed in the Initial Study prepared for the proposed project (included as Appendix A), the project site is not located in, but is located near state responsibility areas (SRA) and near lands classified as very high fire hazards severity zones (CAL FIRE 2007, 2009). The southern parcel of the project site is currently located within an SRA with a “moderate” fire hazard severity designation (CAL FIRE 2007). The northern parcel of the project site is located within a local responsibility areas (LRA) with a “moderate” fire hazard severity designation (CAL FIRE 2009). Lands in the vicinity (west, east, and south) in both the SRA and LRA are designated with a “very high” fire hazard severity zone (CAL FIRE 2007, 2009). However, these areas are separated from the project site by existing residential and commercial development (to the west, east, and south), as well as areas of “moderate” and “high” fire hazard severity zones. While the project is located near SRA and LRA designated with a “very high” fire hazard severity zone, the existing highly developed areas and development of the project site would not exacerbate

wildfire risk with respect to exposure of project occupants to pollutant concentrations from a wildfire, uncontrolled spread of wildfire, or alter post-fire slope stability. The project would also not require the installation or maintenance of associated infrastructure that may exacerbate fire risk; existing power lines at the project frontage and proposed electrical connections would be undergrounded. Thus, the proposed project would result in less than significant impacts related to wildfire.

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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 proposed project and recommends mitigation measures to reduce impacts, where feasible.

As discussed in this EIR, implementation of the proposed project would result in significant impacts to transportation. As outlined in Table 3.15-14 of Section 3.15, Transportation, of this EIR, the project would result in significant impacts to intersections #2, #7, and #9; street segments #3, #4, and #5; and the Rancheros Drive to SR-78 westbound ramp meter location. These significant impacts cannot be mitigated to a less than significant level, and therefore, are considered significant and unavoidable impacts. Refer to Section 3.15, Transportation, of this EIR for additional information.

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 proposed 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 proposed 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.

As discussed in Section 3.12, Population and Housing, of the EIR, the proposed project would directly induce growth through the development of 192 residential units, which would introduce approximately 603 residents to the area. The proposed project's estimated population is based on the population rate coefficient of 3.14 persons per dwelling unit, as established by the California Department of Finance (DOF 2018). The proposed project would not indirectly induce a growth in population as no extension of infrastructure is proposed beyond what is required to adequately serve the proposed project. However, the SANDAG population growth forecasts rely, in part, on individual jurisdictions' planning documents, such as the City's General Plan. As described in Section 3.12 of this EIR, the maximum number of residential units that would be allowed within the project site under current land use designations would be 38 units. Utilizing the 3.14 population coefficient identified above, the 38 dwelling units would induce an estimated population of 119 people. Because the project proposes a General Plan Amendment and Rezone, the estimated population of 603 people would not have been accounted for in SANDAG's projections, and the proposed project would result in an estimated increase of 484 people beyond the current allowable residential land uses within the project site. Therefore, as further analyzed in Section 3.12, Population and Housing, the project's induced population would exceed the City's General Plan projections by 484 people.

There is no hardline number or percentage available to determine whether or not this estimated introduction of 484 people (or 0.02% of projected growth) would be considered a substantial increase in population. However, the San Diego Association of Governments (SANDAG's) 2050 Regional Growth Forecast is intended to be used as a starting point for regional planning as opposed to a prescribed growth pattern. Although the City determined that there are adequate sites available with appropriate designations/zoning to accommodate the remaining Regional Housing Needs Assessment (RHNA) allocation for the current General Plan Housing Element planning period (2013 to 2021), the City has the discretion to adjust allocated housing units/sites as necessary to balance proposed plans for residential development with approved/constructed residential development. Additionally, the estimated buildout of the proposed project would carry over into the next RHNA and City's Housing Element planning period, in which both SANDAG and the City would again be required to assess the housing needs allocation and the ability for the City to meet its fair-share housing requirement. Therefore, while the proposed project would directly induce growth beyond current estimates and forecasts, it would not be considered substantially growth inducing, and impacts would be less than significant.

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 proposed project. Such changes include, for example, the intensification of land use or irreversible damage from environmental accidents associated with the proposed project.

Implementation of the proposed project would result in irreversible environmental changes. Approval of the project would involve the development of 192 multi-family residential units and associated open space and roadway improvements both on- and off-site. Development would result in direct impacts to biological resources (see Section 3.3). Although mitigated to a less-than-significant level, such impacts would be considered irreversible.

Further, construction and/or operation of the proposed project would require the use of resources that include, but are not limited to, soils, gravel, concrete, and asphalt, lumber and other related forest products, petrochemical construction materials, steel, copper, and other metals, water, fuels, and energy. As such, the proposed project would result in the short-term and long-term use of fossil fuels and other nonrenewable resources.

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