

**NOTICE OF INTENT  
TO ADOPT A MITIGATED NEGATIVE DECLARATION**

**LEAD AGENCY:** Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

**CONTACT PERSON:** Daniel Alcayaga, AICP, Planning Manager

**PROJECT TITLE:** Development Code Amendment DCA 2022-003, General Plan Amendment GPA 2022-007, Zone Change ZC 2022-005, and Tentative Tract Map TTM 20453

**PROJECT DESCRIPTION:**

1. Consideration of General Plan Amendment GPA 2022-007 from Low Density Residential (R-LD) to Estate Residential  $\frac{3}{4}$  (R-E  $\frac{3}{4}$ ), to remove Policies 4.G and 4.H from the Land Use Element. Policy 4.G states that projects proposed in the Deep Creek area shall be required to provide perimeter lots of the same size or larger than the adjacent land use designation, or lands across the abutting street. The Deep Creek area shall be defined as land south of Bear Valley Road, east of the Jess Ranch Specific Plan, north of Tussing Ranch Road, and west of Itoya Vista Road and Mockingbird Avenue.

Policy 4.H states that General Plan Amendments requesting increased density in the Deep Creek area shall be restricted to the next densest land use designation only (i.e. lands currently designated Residential Estate may only be amended to Residential Estate  $\frac{3}{4}$  and lands currently designated as Residential Low Density may only be amended to Residential Estate). The Deep Creek area shall be defined as land south of Bear Valley Road, east of the Jess Ranch Specific Plan, north of Tussing Ranch Road, and west of Itoya Vista Road and Mockingbird Avenue.

2. Consideration of Zone Change ZC 2022-005 from Residential Agriculture (R-A) to Estate Residential  $\frac{3}{4}$  (RE- $\frac{3}{4}$ )
3. Consideration of Development Code Amendment DCA 2022-003 to remove Note 17 from Table 9.28.040-A (1) Minimum lot area of Section 9.28.040 of the Development Code. Note 17 states that projects proposed in the Deep Creek area shall be required to provide perimeter lots of the same size or larger than the adjacent land use designation, or lands across the abutting street. The Deep Creek area shall be defined as land south of Bear Valley Road, east of the Jess Ranch Specific Plan, north of Tussing Ranch Road, and west of Itoya Vista Road and Mockingbird Avenue.
4. Consideration of Tentative Tract Map TTM- 20453 – to construct 99 residential lots on 100 acres on a Residential Agriculture (R-A) District that will change to a Residential Estate  $\frac{3}{4}$  (R-E $\frac{3}{4}$ )

**PROJECT LOCATION:** Northeast corner of Deep Creek Road and Del Oro Road (APN:0434-042-32)

**FINDINGS / DETERMINATION:** Based on a preliminary analysis, the Town of Apple Valley, as lead agency, intends to adopt a Mitigated Negative Declaration for the project listed in this notice. The Initial Study Checklist determined that the proposed Project could result in potentially significant effects, but the Project Applicant will incorporate mitigation measures that would avoid or mitigate effects to a point where clearly no significant environmental impacts on the environment will occur. Mitigation has been included to address Air Quality; Biological Resources; Noise; and Transportation/Traffic.

**PUBLIC REVIEW PERIOD:** The Town of Apple Valley invites you to comment on the Initial Study/Mitigated Negative Declaration. The public review period begins July 14, 2023 and ends on August 14, 2023. Written comments must be received at the Town of Apple Valley Planning Division located at 14955 Dale Evans Pkwy, Apple Valley, California 92307. Attention: Daniel Alcayaga, Planning Manager or via email at [dalcayaga@applevalley.org](mailto:dalcayaga@applevalley.org) by 5:30 PM on August 14, 2023.

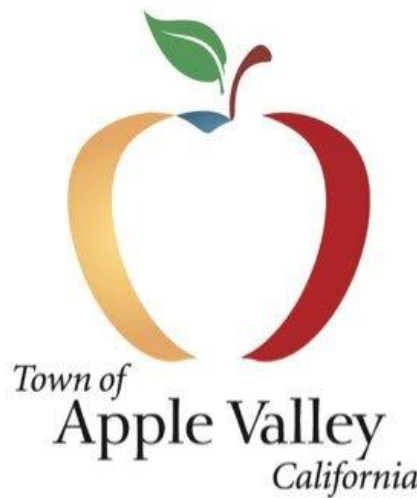
Copies of the IS/MND can also be found online at <https://www.applevalley.org/>.



# INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

---

## 99 UNIT SINGLE-FAMILY SUBDIVISION (120 ACRES) TENTATIVE TRACT MAP (TTM) 20453 TOWN OF APPLE VALLEY, CALIFORNIA APN 0434-042-32



### LEAD AGENCY:

TOWN OF APPLE VALLEY, PLANNING DIVISION  
14955 DALE EVANS PARKWAY  
APPLE VALLEY, CALIFORNIA 92307

### REPORT PREPARED BY:

BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING  
2211 S. HACIENDA BOULEVARD, SUITE 107  
HACIENDA HEIGHTS, CALIFORNIA 91745

## JULY 5, 2023

APPL001

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.**

## MITIGATED NEGATIVE DECLARATION

**PROJECT NAME:** TTM 20453 (120 Acre Residential Development)

**PROJECT APPLICANT:** The Applicant for the proposed project is Mark Maida, 13302 Ranchero Road, Oak Hills, California 92344.

**PROJECT LOCATION:** The proposed project site is a 120-acre property located on the southeast corner of Gupan Road and Deep Creek Road in the Town of Apple Valley. No legal address has been assigned to this property at this time. The corresponding Assessor Parcel Number (APN) is 0434-042-32.

**CITY AND COUNTY:** Town of Apple Valley, San Bernardino County.

**PROJECT:** This Initial Study and Mitigated Negative Declaration analyzes a proposal to construct a residential development on a 120-acre property. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The proposed project would consist of 99 lots that would contain single-family homes. In addition, the proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map would be modified to bring the proposed horse trail inside the property lines. The individual residential lots would range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed project site is currently vacant with a zoning designation of Residential Agriculture (R-A). The proposed project will require both a General Plan Amendment (GPA) and a Zone Change (ZC) to allow for the proposed project. The GPA would change the site's General Plan designation to *Estate Residential* to permit lot sizes between 0.75-acres and larger.

**EVALUATION FORMAT:** The attached Initial Study was prepared in accordance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of the attached Initial Study was guided by Section 15063 of the State CEQA Guidelines. The project was evaluated according to its effect on 21 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study checklist includes a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant	No Impact
-----------------------------------	---	--------------------------	-----------

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

**No Impact:** No impacts are identified or anticipated, and no mitigation measures are required.

**Less than Significant Impact:** No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

**Less than Significant Impact with Mitigation:** Possible significant adverse impacts have been identified or anticipated and mitigation measures are required as a condition of the project's approval to reduce these impacts to a level below significance.

**Potentially Significant Impact:** Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

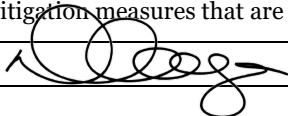
The environmental factors checked below will be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in the attached Initial Study.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture & Forestry Resources    | <input checked="" type="checkbox"/> Air Quality               |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources       | <input type="checkbox"/> Energy                               |
| <input checked="" type="checkbox"/> Geology & Soils      | <input type="checkbox"/> Greenhouse Gas Emissions            | <input type="checkbox"/> Hazards & Hazardous Materials        |
| <input type="checkbox"/> Hydrology & Water Quality       | <input type="checkbox"/> Land Use & Planning                 | <input type="checkbox"/> Mineral Resources                    |
| <input checked="" type="checkbox"/> Noise                | <input type="checkbox"/> Population & Housing                | <input type="checkbox"/> Public Services                      |
| <input type="checkbox"/> Recreation                      | <input checked="" type="checkbox"/> Transportation & Traffic | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities & Service Systems     | <input type="checkbox"/> Wildfire                            | <input type="checkbox"/> Mandatory Findings of Significance   |

**DETERMINATION:** (To be completed by the Lead Agency) On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project <i>COULD NOT</i> have a significant effect on the environment, and a <i>NEGATIVE DECLARATION</i> shall be prepared.
<input checked="" type="checkbox"/>	Although the proposed project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A <i>MITIGATED NEGATIVE DECLARATION</i> shall be prepared.
<input type="checkbox"/>	The proposed project <i>MAY</i> have a significant effect on the environment, and an <i>ENVIRONMENTAL IMPACT REPORT</i> is required.
<input type="checkbox"/>	The proposed project <i>MAY</i> have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An <i>ENVIRONMENTAL IMPACT REPORT</i> is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an <i>earlier EIR or NEGATIVE DECLARATION</i> pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that <i>earlier EIR or NEGATIVE DECLARATION</i> , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

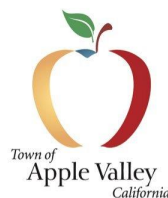
Signature



7/13/23

Date

The environmental analysis is provided in the attached Initial Study prepared for the proposed project. The project is also described in greater detail in the attached Initial Study.



## TABLE OF CONTENTS

	<u>Page</u>
<b>SECTION 1. INTRODUCTION .....</b>	<b>7</b>
1.1 OVERVIEW OF THE PROPOSED PROJECT.....	7
1.2 PURPOSE OF THIS INITIAL STUDY .....	7
1.3 INITIAL STUDY'S ORGANIZATION.....	8
<b>SECTION 2. PROJECT DESCRIPTION.....</b>	<b>9</b>
2.1 PROJECT LOCATION .....	9
2.2 ENVIRONMENTAL SETTING .....	9
2.3 PHYSICAL CHARACTERISTICS OF THE PROPOSED PROJECT .....	10
2.4 OCCUPANCY CHARACTERISTICS OF THE PROPOSED PROJECT .....	10
2.5 CONSTRUCTION CHARACTERISTICS .....	11
2.6 DISCRETIONARY ACTIONS.....	11
<b>SECTION 3. ENVIRONMENTAL ANALYSIS .....</b>	<b>19</b>
3.1 AESTHETICS .....	20
3.2 AGRICULTURE & FORESTRY RESOURCES.....	23
3.3 AIR QUALITY .....	27
3.4 BIOLOGICAL RESOURCES .....	33
3.5 CULTURAL RESOURCES.....	39
3.6 ENERGY.....	46
3.7 GEOLOGY & SOILS.....	50
3.8 GREENHOUSE GAS EMISSIONS .....	57
3.9 HAZARDS & HAZARDOUS MATERIALS.....	62
3.10 HYDROLOGY & WATER QUALITY.....	66
3.11 LAND USE & PLANNING.....	71
3.13 NOISE .....	76
3.14 POPULATION & HOUSING.....	83
3.15 PUBLIC SERVICES.....	85
3.16 RECREATION.....	88
3.17 TRANSPORTATION .....	90
3.18 TRIBAL CULTURAL RESOURCES.....	97
3.19 UTILITIES AND SERVICE SYSTEMS .....	101
3.20 WILDFIRE .....	105
3.21 MANDATORY FINDINGS OF SIGNIFICANCE.....	109
<b>SECTION 4. CONCLUSIONS .....</b>	<b>111</b>
4.1 FINDINGS.....	111
4.2 MITIGATION MONITORING .....	111
<b>SECTION 5. REFERENCES .....</b>	<b>113</b>
5.1 PREPARERS .....	113
5.2 REFERENCES .....	113
<b>APPENDICES .....</b>	<b>115</b>
APPENDIX A – AIR QUALITY REPORT .....	117
APPENDIX B – BIOLOGY STUDY .....	142
APPENDIX C – CULTURAL STUDY.....	172
APPENDIX D – UTILITIES & ENERGY .....	232
APPENDIX E– TRAFFIC STUDY.....	239
APPENDIX F– JOSHUA TREE STUDY .....	269

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.**

## SECTION 1. INTRODUCTION

### 1.1 OVERVIEW OF THE PROPOSED PROJECT

This Initial Study and Mitigated Negative Declaration analyzes a proposal construct 99 single-family residential units on a 120-acre parcel. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The proposed project would consist of 99 lots that would contain single-family homes. In addition, the proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map would be modified to bring the proposed horse trail inside the property lines. The individual residential lots would range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) of the project site is 0434-042-32. The project site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>1</sup> The proposed project will require both a General Plan Amendment (GPA) and a Zone Change (ZC) to allow for the proposed project. The GPA would change the site's General Plan designation to *Estate Residential* to permit lot sizes between 0.75-acres and larger.

### 1.2 PURPOSE OF THIS INITIAL STUDY

<sup>2</sup>The Town of Apple Valley (the Town) is the designated *Lead Agency*, and as such, the Town will be responsible for the project's environmental review. Section 21067 of California Environmental Quality Act (CEQA) defines a Lead Agency as the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment.<sup>3</sup> As part of the proposed project's environmental review, the Town of Apple Valley has authorized the preparation of this Initial Study.<sup>4</sup> The primary purpose of CEQA is to ensure that decision-makers and the public understand the environmental implications of a specific action or project. An additional purpose of this Initial Study is to ascertain whether the proposed project would have the potential for significant adverse impacts on the environment once it is implemented. Pursuant to the CEQA Guidelines, additional purposes of this Initial Study include the following:

- To provide the Town of Apple Valley with information to use as the basis for deciding whether to prepare an environmental impact report (EIR), mitigated negative declaration, or negative declaration for a project;
- To facilitate the project's environmental assessment early in the design and development of the proposed project;
- To eliminate unnecessary EIRs; and,
- To determine the nature and extent of any impacts associated the proposed project.

Although this Initial Study was prepared with consultant support, the analysis, conclusions, and findings made as part of its preparation fully represent the independent judgment and position of the Town of Apple Valley, in its capacity as the Lead Agency. The Town of Apple Valley determined, as part of this Initial Study's preparation, that a Mitigated Negative Declaration is the appropriate environmental document for

---

<sup>2</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date)

<sup>3</sup> California, State of. *California Public Resources Code. Division 13, Chapter 2.5. Definitions.* as Amended 2001. §21067.

<sup>4</sup> Ibid. (CEQA Guidelines) §15050.

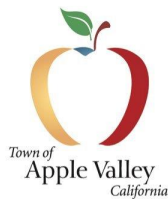
the proposed project's CEQA review. Certain projects or actions may also require oversight approvals or permits from other public agencies. These other agencies are referred to as *Responsible Agencies* and *Trustee Agencies*, pursuant to Sections 15381 and 15386 of the State CEQA Guidelines.<sup>5</sup> This Initial Study and the *Notice of Intent to Adopt (NOIA) a Mitigated Negative Declaration* will be forwarded to the State Clearinghouse, responsible agencies, trustee agencies, and the public for review and comment. This Initial Study and Mitigated Negative Declaration will also be forwarded to the State of California Office of Planning Research (the State Clearinghouse). A 30-day public review period will be provided to allow these entities and other interested parties to comment on the proposed project and the findings of this Initial Study.<sup>6</sup> Questions and/or comments should be submitted to the following contact person:

Town of Apple Valley Development Department, Planning Division  
14955 Dale Evans Parkway  
Town of Apple Valley, California 92307

### 1.3 INITIAL STUDY'S ORGANIZATION

The following annotated outline summarizes the contents of this Initial Study:

- *Section 1 Introduction* provides the procedural context surrounding this Initial Study's preparation and insight into its composition.
- *Section 2 Project Description* provides an overview of the existing environment as it relates to the project area and describes the proposed project's physical and operational characteristics.
- *Section 3 Environmental Analysis* includes an analysis of potential impacts associated with the construction and the subsequent operation of the proposed project.
- *Section 4 Conclusions* summarizes the findings of the analysis.
- *Section 5 References* identifies the sources used in the preparation of this Initial Study.



---

<sup>5</sup> California, State of. Public Resources Code Division 13. *The California Environmental Quality Act. Chapter 2.5, Section 21067 and Section 21069.* 2000.

<sup>6</sup> California, State of. Public Resources Code Division 13. *The California Environmental Quality Act. Chapter 2.6, Section 2109(b).* 2000.



## SECTION 2. PROJECT DESCRIPTION

### 2.1 PROJECT LOCATION

The proposed project site is located in the south-central portion of the Town of Apple Valley. The Town of Apple Valley is located in the southwestern portion of San Bernardino County in the southwestern Mojave Desert physiographic subregion. This physiographic subregion is more commonly referred to as either the “Victor Valley” or the “High Desert” due to its approximate elevation of 2,900 feet above sea level. The Victor Valley is separated from the more populated areas of coastal Southern California by the San Bernardino and San Gabriel mountains. The Town of Apple Valley is bounded on the north by unincorporated San Bernardino County; on the east by unincorporated San Bernardino County; the south by the City of Hesperia and unincorporated San Bernardino County; and on the west by the City of Adelanto, City of Victorville, and the City of Hesperia. Regional access to the Town of Apple Valley is provided by two area highways: the Mojave Freeway (Interstate 15), extends along the westside of Apple Valley and State Route 18 traverses the central portion of Apple Valley in an east to west orientation.<sup>7</sup> The location of the Town of Apple Valley, in a regional context, is shown in Exhibit 1. A vicinity map is provided in Exhibit 2.

Deep Creek Road extends along the project site’s west side, Gupan Road extends along the project’s north side, Savage Lane extends along the site’s east side, and Del Oro Road extends along the project site’s south side. No street address has been assigned to the project site at this time. The corresponding Assessor Parcel Number (APN) is 0434-042-32. The site’s latitude and longitude include 34.460582; -117.223211. A vicinity map is provided in Exhibit 3. An aerial photograph of the site and the surrounding area is provided in Exhibit 4.

### 2.2 ENVIRONMENTAL SETTING

The proposed project site is located on a 120-acre property that is largely undeveloped though it had been disturbed. Utility lines will extend along the site’s Gupan Road frontage. The property is currently zoned as R-A (Residential – Agriculture). A site survey identified a cluster of poured concrete foundations where imagery analysis documented circa-1950 complex had been located until at least 1986. Land uses and development located in the vicinity of the proposed project are outlined below:

- *North of the project site:* Gupan Road extends along the project site’s north side. Sparse residential development abuts the project site to the north. This area is zoned as Mixed Use (M-U).
- *East of the project site:* Savage Lane extends along the site’s eastern side. Residential properties are located to the east of the project site. This area is zoned as Low Density Residential (R-LD).
- *South of the project site:* Del Oro Road extends along the project site’s south side. Residential and large lot rural land uses are located here. This area is zoned as Residential Agriculture (R-A).<sup>8</sup>
- *West of the project site:* Deep Creek Road extends along the project site’s west side. Residential and large lot rural development is located here. This area is zoned a Residential Agriculture (Residential Agriculture).<sup>9</sup>

---

<sup>7</sup> Google Earth. Website accessed February 2, 2023.

<sup>8</sup> Google Maps and Town of Apple Valley Zoning Map. Website accessed February 2, 2023.

<sup>9</sup> Ibid.

## 2.3 PHYSICAL CHARACTERISTICS OF THE PROPOSED PROJECT

This Initial Study analyzes the environmental impacts associated with the development of the proposed 99-unit subdivision that would be located on the southeast corner of Gupan Road and Deep Creek Road. The proposed lots that would be developed in a single phase. The proposed project's site plan is illustrated in Exhibit 5. The proposed project would consist of the following elements:

- *Project Site.* The proposed project would involve the development of 99 single-family residential units within the 120-acre site. Equestrian trails, a community park, and a retention basis/park will also be built.<sup>10</sup>
- *Single-family Units.* As indicated previously, a total of 99 single-family units would be provided. Each single-family unit would be situated on an individual lot. The lot sizes would range in size from approximately 0.75 acres feet to approximately 1.22 acres. The average lot size will be approximately 0.86 acres.<sup>11</sup>
- *Proposed Floor Plan.* Each unit would consist of one or two levels and would contain either three or four bedrooms, depending on the floor plan (the fourth bedroom may be used as a family room or study). Each unit would also include two full baths and a private yard area and the floor areas for the individual units would range from 2,000 to 4,000 square feet.
- *Open Space.* Two lots would be dedicated to open space. A 2.93-acre lot on the southwest corner of the project site will be used as a retention basis and park. In the center of the project site will be a 2.52-acre community park.<sup>12</sup>
- *Access and Internal Circulation.* Access to the proposed development would be provided by a single connection to Del Oro Road on the south side of the project and a connection with Deep Creek Road on the western side of the project. Access to the individual units would be provided by a number of internal streets and cul-de-sacs roadways.
- *Parking.* Each single-family unit would be provided with an enclosed two-car garage. Addition parking would also be available in the driveway apron.
- *Utilities.* A Southern California Edison Transmission Line easement will be installed on the northern side of the project site along Gupan Road. Water and sewer lines would be extended to the proposed development.

## 2.4 OCCUPANCY CHARACTERISTICS OF THE PROPOSED PROJECT

As indicated previously, the project is a proposal to construct 99 single-family detached residential units. These single-family units would be owner-occupied. In addition, the proposed project is estimated to add 402 new residents assuming an average household size of 4.06 persons per unit. The average household size figure was derived from the most recent Census data.<sup>13</sup>

---

<sup>10</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date)

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> The Natelson Company. *Employment Density Study, Summary Report, SECTION 2 • PROJECT DESCRIPTION*

## 2.5 CONSTRUCTION CHARACTERISTICS

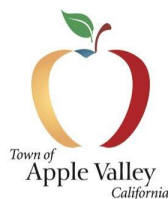
The new residential development would be developed in one phase. The proposed project would consist of 99 single-family units. The construction for the current proposed project is assumed to commence in June 2024 and would take approximately 16 months to complete.<sup>14</sup> During each individual construction phase of development, the following construction activities will occur:

- *Grading.* The project site would be graded and readied for construction. This phase would require one month to complete. The typical heavy equipment used during this construction phase would include graders, bulldozers, offroad trucks, back-hoes, and trenching equipment.
- *Site Preparation.* During this phase, the building footings, utility lines, and other underground infrastructure would be installed. This phase would require one month to complete. The typical heavy equipment used during this construction phase would include bulldozers, offroad trucks, back-hoes, front-end loaders, cranes, and forklifts.
- *Housing Unit Construction.* The new housing units would be constructed during this phase. This phase will take approximately ten months to complete. The typical heavy equipment used during this construction phase would include offroad trucks, cranes, and fork-lifts. This task will take approximately twelve months to complete.
- *Paving, Landscaping, and Finishing.* The individual development sites will be paved during this phase. This phase will take approximately two months to complete. The typical heavy equipment used during this construction phase would include trucks, backhoes, rollers, pavers, and trenching equipment.

## 2.6 DISCRETIONARY ACTIONS

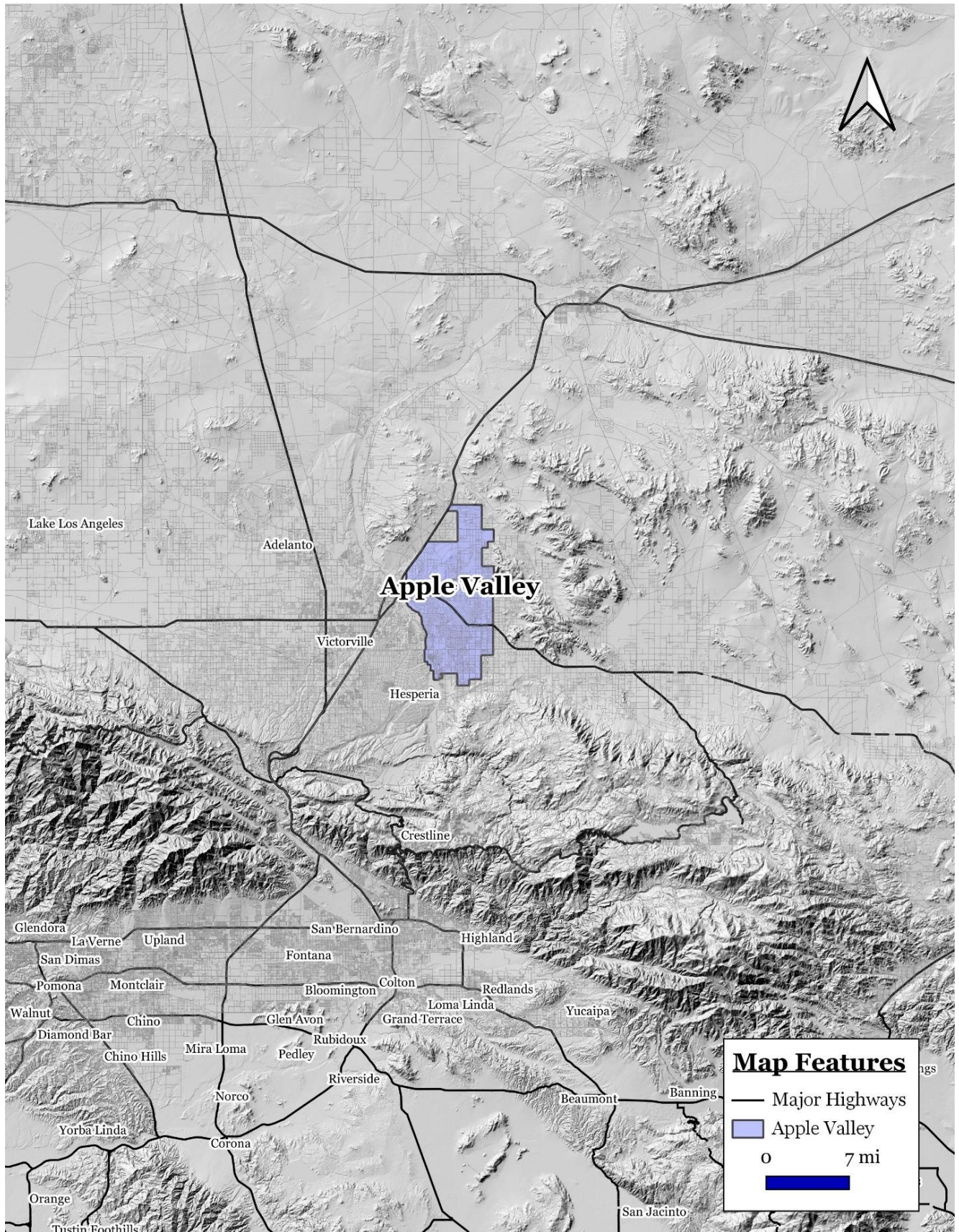
A Discretionary Action is an action taken by a government agency (for this project, the government agency is the Town of Apple Valley) that calls for an exercise of judgment in deciding whether to approve a project. The following discretionary approvals are required:

- Approval of a Tentative Tract Map (TTM 20453);
- Approval of a General Plan Amendment (GPA);
- Approval of a Zone Change (ZC);
- Approval of the Mitigated Negative Declaration (MND); and,
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP).



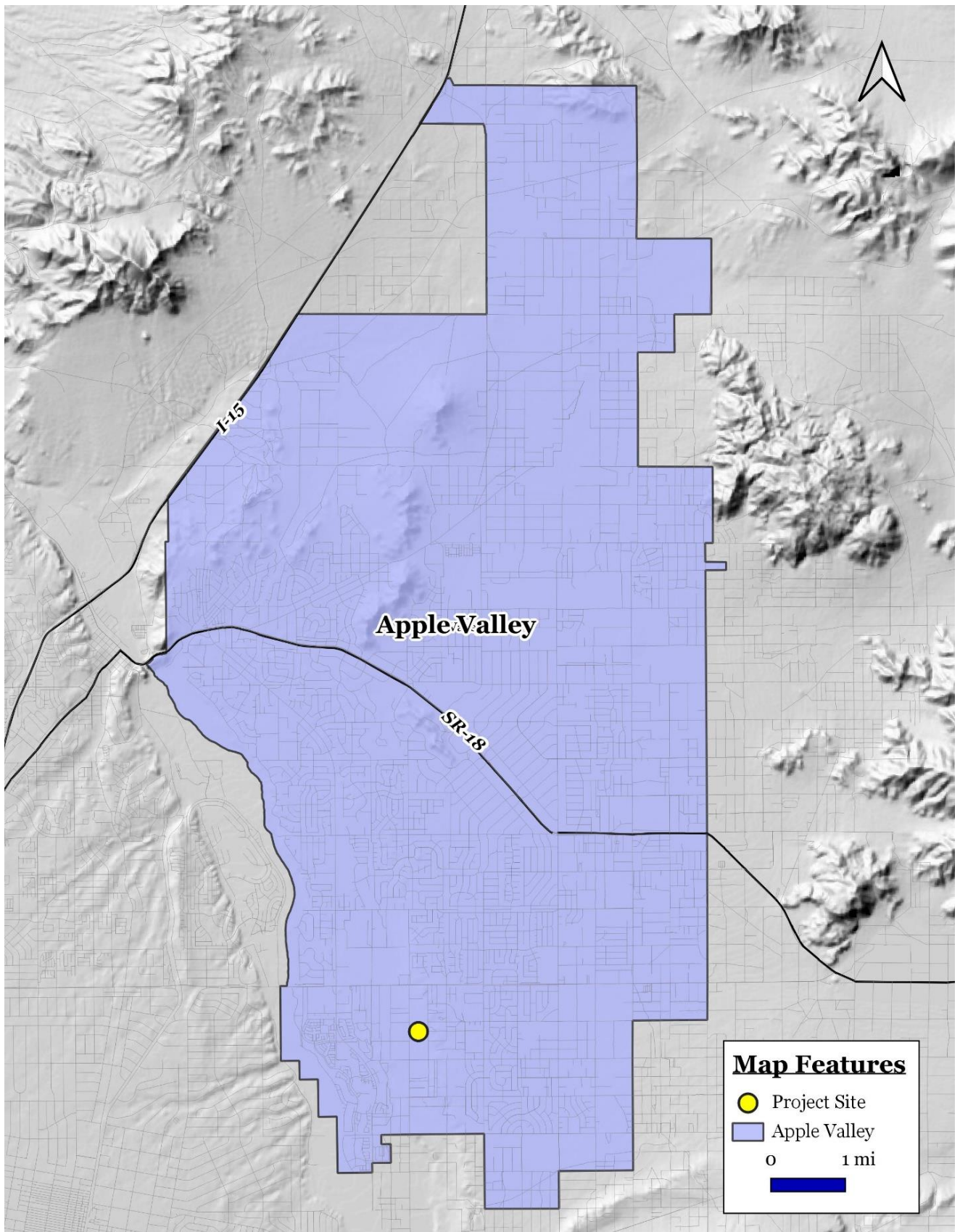
<sup>14</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).





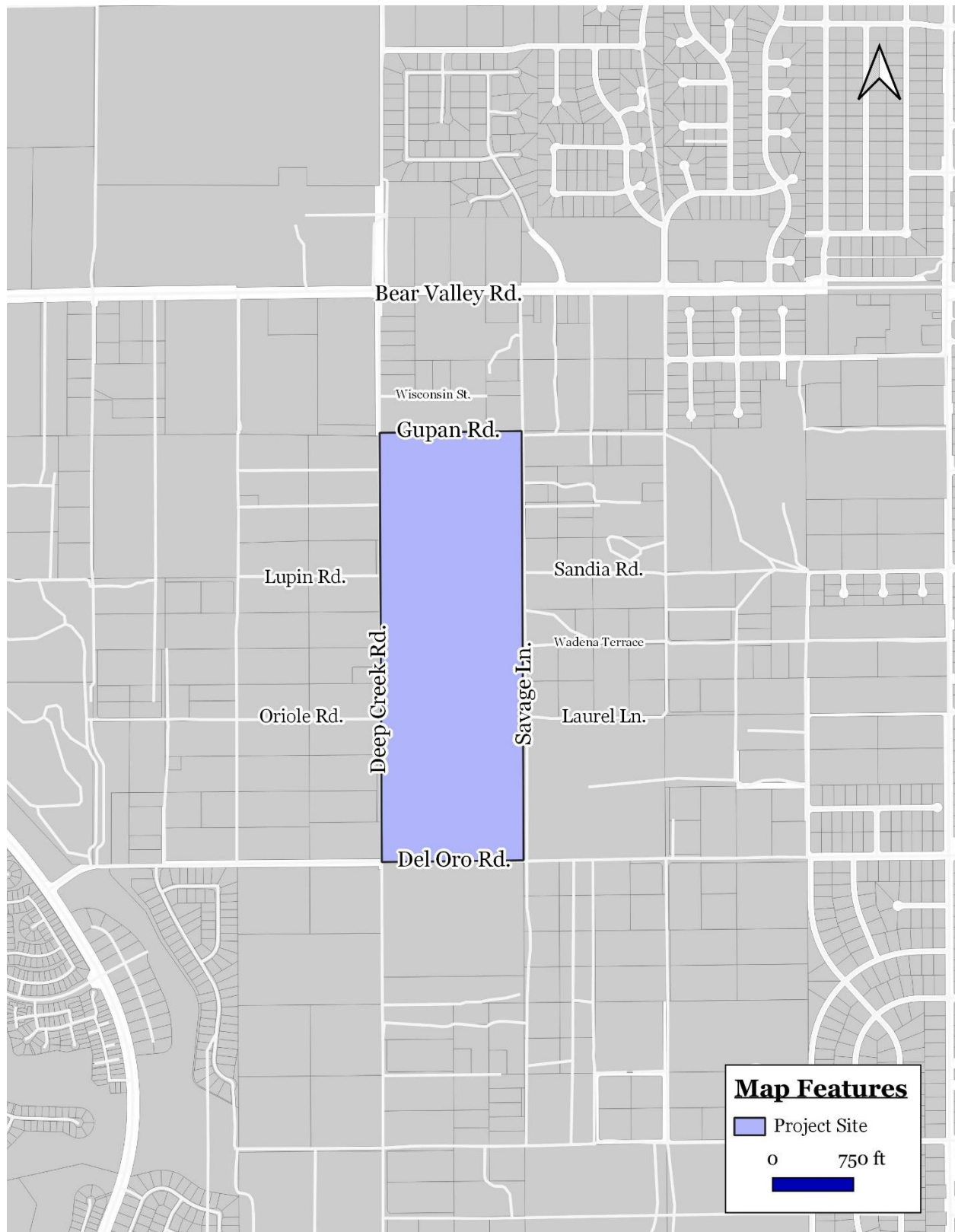
**EXHIBIT 1 REGIONAL MAP**  
SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING





## EXHIBIT 2 CITYWIDE MAP

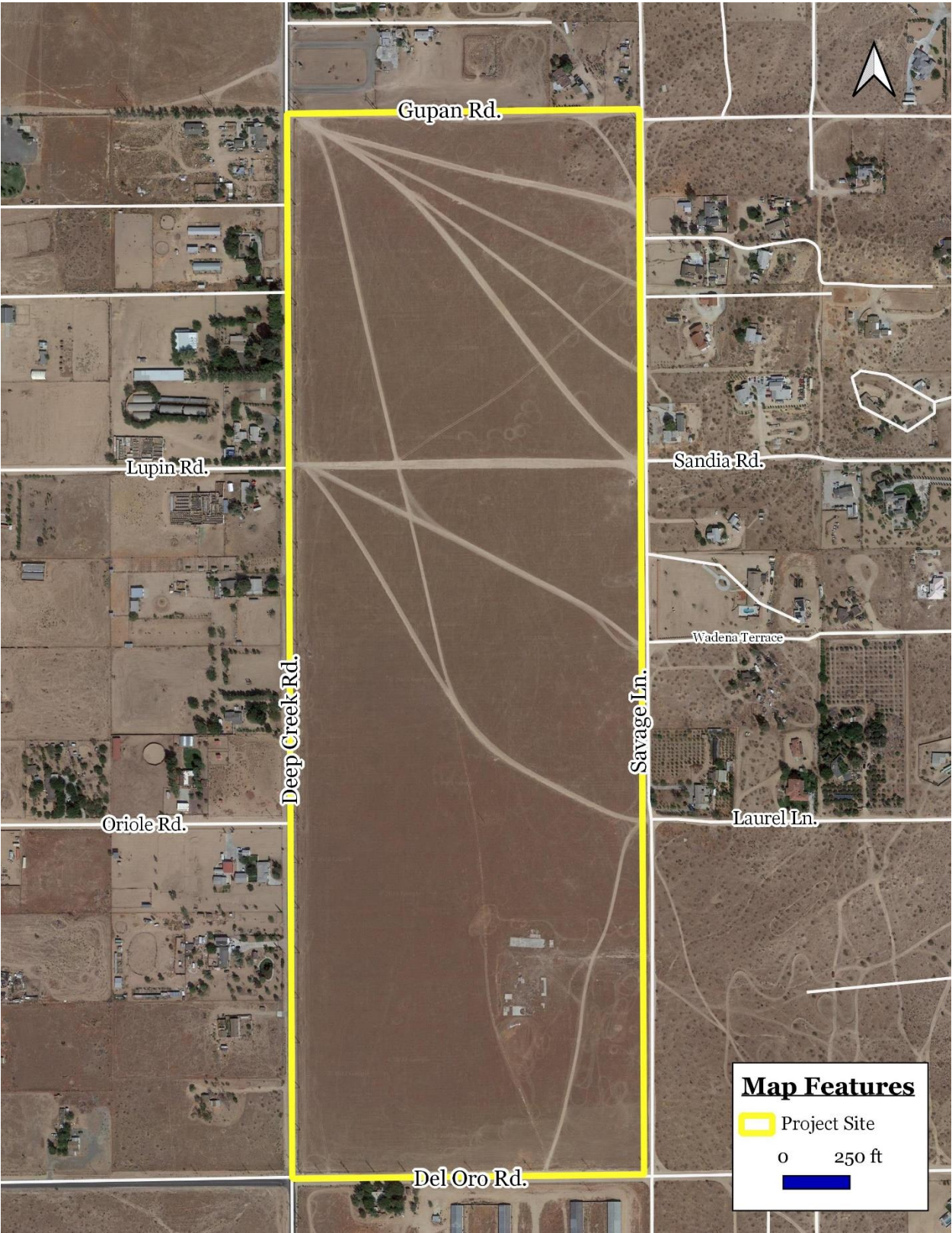
SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING



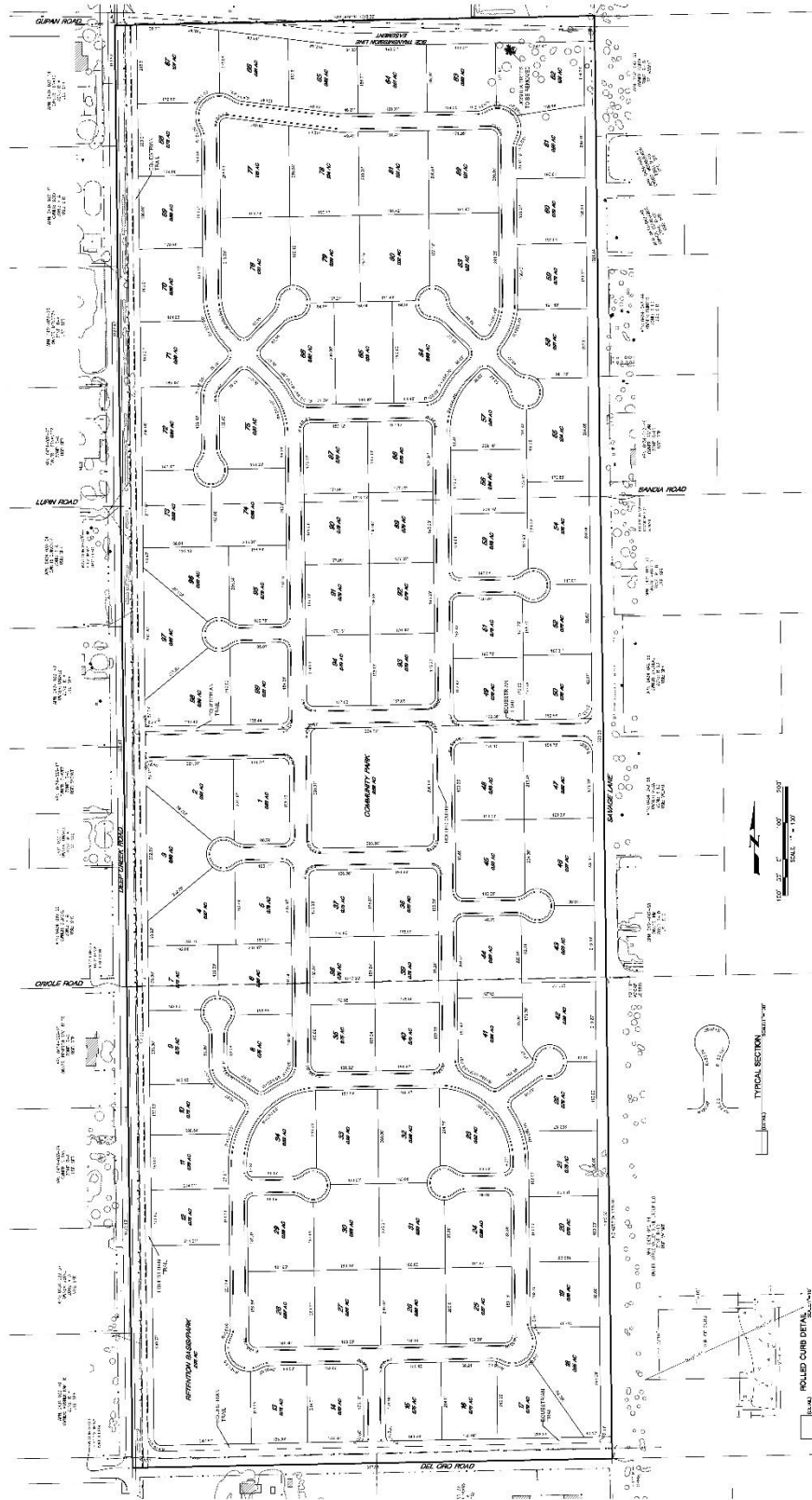
## EXHIBIT 3 LOCAL MAP

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING





**EXHIBIT 4 AERIAL IMAGE**  
SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING



**EXHIBIT 5 SITE PLAN**  
SOURCE: MERRELL JOHNSON ENGINEERING, INC





**EXHIBIT 5 AERIAL SITE PLAN**  
SOURCE: MERRELL JOHNSON ENGINEERING, INC

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.**

## SECTION 3. ENVIRONMENTAL ANALYSIS

This section of the Initial Study analyzes the potential environmental impacts that may result from the proposed project's implementation. The issue areas evaluated in this Initial Study include the following:

Aesthetics (Section 3.1);  
Agricultural & Forestry Resources (Section 3.2);  
Air Quality (Section 3.3);  
Biological Resources (Section 3.4);  
Cultural Resources (Section 3.5);  
Energy (Section 3.6)  
Geology & Soils (Section 3.7);  
Greenhouse Gas Emissions; (Section 3.8);  
Hazards & Hazardous Materials (Section 3.9);  
Hydrology & Water Quality (Section 2.39);  
Land Use & Planning (Section 3.11);

Mineral Resources (Section 3.12);  
Noise (Section 3.13);  
Population & Housing (Section 3.14).  
Public Services (Section 3.15);  
Recreation (Section 3.16);  
Transportation (Section 3.17);  
Tribal Cultural Resources (Section 3.18);  
Utilities (Section 3.19);  
Wildfire (Section 3.20); and,  
Mandatory Findings of Significance (Section 3.21).

### 3.1 AESTHETICS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project have a substantial adverse effect on a scenic vista?			✗	
B. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✗
C. Would the project in nonurbanized areas substantially degraded 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?				✗
D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on aesthetics if it results in any of the following:

- The proposed project would have an adverse effect on a scenic vista, except as provided in PRC Sec. 21099.
- The proposed project would have an adverse effect on scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- The proposed project would 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.
- The proposed project would, except as provided in Public Resources Code Section 21099, create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The evaluation of aesthetics and aesthetic impacts is generally subjective, and it typically requires the identification of key visual features in the area and their importance. The characterization of aesthetic impacts involves establishing the existing visual characteristics including visual resources and scenic vistas that are unique to the area. Visual resources are determined by identifying existing landforms (e.g., topography and grading), views (e.g., scenic resources such as natural features or urban characteristics), and existing light and glare characteristics (e.g., nighttime illumination). Changes to the existing aesthetic environment associated with the proposed project's implementation are identified and *qualitatively* evaluated based on the proposed modifications to the existing setting and the viewers' sensitivity. The project-related impacts are then compared to the context of the existing setting, using the threshold criteria discussed above.



## ANALYSIS OF ENVIRONMENTAL IMPACTS

### **A. *Would the project have a substantial adverse effect on a scenic vista? • Less than Significant Impact***

The proposed project involves the construction of 99 single-family units on a 120-acre site. In addition, the proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map would be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots would range in size from 0.75 to 1.22 acres. The project site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>15</sup>

The dominant scenic views from the project site include the views of the San Bernardino and San Gabriel Mountains, located 20 miles south, southwest, and southeast of the site. The topography of Apple Valley gradually inclines towards the Juniper Flats foothills of the San Bernardino Mountains to the south, as well as to the scattered knolls and mountains to the north and east of the Town. Turtle and Black Mountains are located to the north of the Town. From these elevated topographical features, panoramic vistas exist across Apple Valley. The proposed project will be required to conform to all pertinent development and design standards of the Town of Apple Valley Municipal Code. Views from the mountains will not be obstructed. Once occupied, views of the aforementioned mountains will continue to be visible from the public right-of-way. *As a result, the impacts will be less than significant.*

### **B. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway • No Impact.***

According to the California Department of Transportation, none of the streets located adjacent to the proposed project site are designated scenic highways and there are no state or county designated scenic highways in the vicinity of the project site.<sup>16</sup> According to the Town of Apple Valley General Plan, State Highway 18 is designated as an “Eligible State Scenic Highway.” Other highways that are eligible for designation as a scenic highways include SR-2 (from SR-210 to SR-138), located 11 miles southwest of the City; SR-58 (from SR-14 to I-15), located 20 miles north of the City; SR-138 (from SR-2 to SR-18), located 13 miles south of the City; SR-173 (from SR-138 to SR-18), located 15 miles southeast of the City; and, SR-247 (from SR-62 to I-15), located 23 miles east of Apple Valley. The project site does not contain any buildings listed in the State or National registry and the project will not affect any designated scenic highways. *As a result, no impacts will occur.*

### **C. *Would the project in nonurbanized areas substantially degraded 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? • No Impact***

According to the Open Space and Conservation Element of the Town of Apple Valley General Plan, “...The protection of local scenic resources is necessary for the overall livability of the community and to maintain the aesthetic qualities of the Town and vicinity. The Mojave River, surrounding knolls, hillsides, mountains, and the natural desert environment are an important natural resource that should be preserved as Open Space.” The project site itself is zoned for residential development and does not contain any protected

<sup>15</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date).

<sup>16</sup> California Department of Transportation. *Official Designated Scenic Highways.*

views.<sup>17</sup> In addition, the project will conform to the Town's development and design standards. *As a result, no impacts will occur.*

**D.** *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? • Less than Significant Impact.*

The proposed project would be subject to review by Town staff to ensure compliance with General Plan dark sky and lighting policies, as well as Development Code standards and requirements that are designed to control light spillage and preserve night skies. The Town has also established development performance standards for exterior lighting in Chapter 9.70.020 of the Town's Municipal Code and these requirements would be enforced to reduce lighting and glare impacts. *As a result, the impacts will be less than significant.*

## MITIGATION MEASURES

The analysis of aesthetics indicated that no impact on these resources would occur as part of the proposed project's implementation. As a result, no mitigation is required.

---

<sup>17</sup> Town of Apple Valley, City of. *Town of Apple Valley General Plan 2030, Land Use Element*. October 21, 2008  
SECTION 3.1 • AESTHETICS

### 3.2 AGRICULTURE & FORESTRY RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses?				×
B. Would the project conflict with existing zoning for agricultural uses, or a Williamson Act Contract?				×
C. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				×
D. Would the project result in the loss of forest land or conversion of forest land to a non-forest use?				×
E. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to a non-forest use?				×

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on agriculture and forestry resources if it results in any of the following:

- The proposed project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- The proposed project would conflict with existing zoning for agricultural use, or a Williamson Act contract.
- The proposed project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- The proposed project would result in the loss of forest land or conversion of forest land to non-forest use.
- The proposed project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to track changes in agricultural land use and to help preserve areas of Important Farmland. The California Department of Conservation, Farmland Mapping and Monitoring Program, monitors the supply of farmland in the State, including San Bernardino County. The Department classifies four types of farmlands:

- *Prime Farmland* These lands have the best combination of physical and chemical features to maintain long term agricultural activities. The quality of the soil, the level of moisture, and the length of the growing season are all ideal for the production of consistently high yields.
- *Farmland of Statewide Importance* This type of farmland is similar to Prime Farmland, but has some restrictions, such as slope or less soil moisture. These lands are designated if they have been used for agriculture in the four years preceding the preparation of the map.
- *Unique Farmland* This classification of farmland has lower quality soils, and usually requires irrigation, although irrigated orchards and vineyards can be included in the classification.
- *Farmland of Local Importance* Locally important farmlands have the soils which meet the requirements of Prime, Statewide Importance or Unique farmlands, but are not irrigated.

The proposed project site is located within an area designated as “grazing land” (refer to Exhibit 3-1. Grazing land is technically open space land that is disturbed by animal husbandry activities.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses? • No Impact.**

The proposed project would involve the construction of a 99-unit single-family residential development on a 120-acre site. In addition, the proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>18</sup> The proposed project’s implementation would require both a General Plan Amendment and Zone Change to permit the smaller lots envisioned as part of the proposed project’s implementation. The site has not been used for farming or agricultural production. The site shows heavy disturbance in the form of vehicular activity disturbing the site. According to the California Department of Conservation, the project site does not contain any areas of Farmland of Statewide Importance, and no agricultural uses are located onsite or adjacent to the property as shown in Exhibit 3-1. The land has not been used for agriculture and it is not feasible due to water restrictions. The Department has identified four areas in Apple Valley which it has designated as Farmland of Statewide Importance. Two areas are located north of Yucca Loma Road, and west of Apple Valley Road. Two other areas are located south of Yucca Loma Road; one immediately east of Apple Valley Road, and one south of Bear Valley Road, in the Deep Creek area. Altogether, these lands represent approximately 130 acres. The implementation of the proposed project would not involve the conversion of any prime farmland, unique farmland, or farmland of statewide importance to urban uses. *As a result, no impacts will occur.*

<sup>18</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).



**B. Would the project conflict with existing zoning for agricultural uses, or a Williamson Act Contract? • No Impact.**

The property is vacant and undeveloped. According to the California Department of Conservation Division of Land Resource Protection, the project site is not subject to a Williamson Act Contract.<sup>19</sup> There is one Williamson Act contract in effect in the Town, located on the south side of Chickasaw Lane, east of Chamber Lane, and consisting of 1.8 acres. The parcel is owned by the Apple Valley Ranchos Water Company (AVR). *As a result, no impacts will occur.*

**C. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? • No Impact.**

The proposed project involves the development of a 120-acre property located in the south-central portion of Town of Apple Valley. The existing project parcel is vacant. There are no forest lands or timberlands located within or adjacent to the site. Furthermore, the site's existing zoning designation does not contemplate forest land or timberland resource protection. *As a result, no impacts will occur.*

**D. Would the project result in the loss of forest land or conversion of forest land to a non-forest use? • No Impact.**

No forest lands are located within the project site. The proposed use will be restricted to the site and will not affect any timber resources. No loss or conversion of forest lands to urban uses will result from the proposed project's implementation. *As a result, no impacts will occur.*

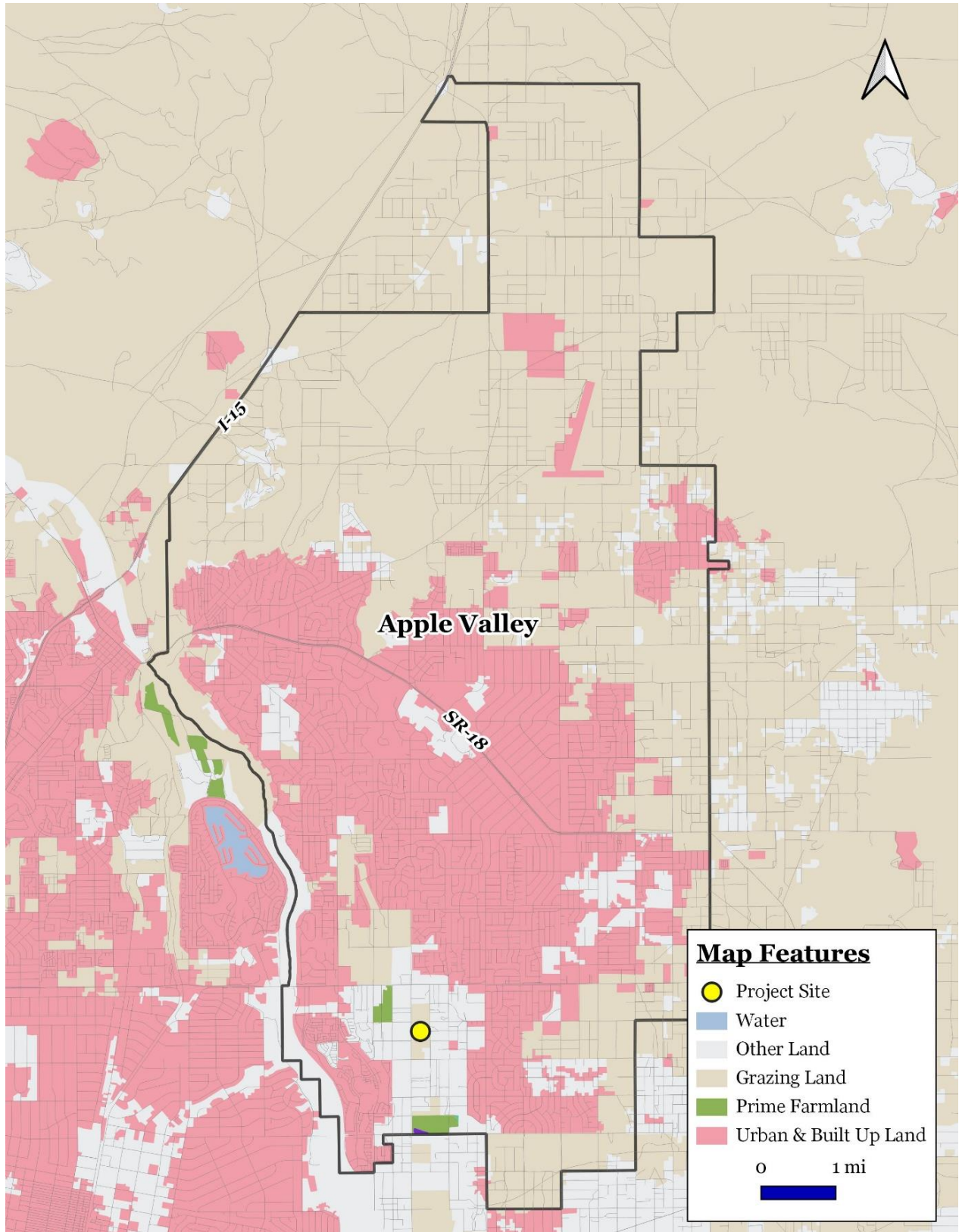
**E. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to a non-forest use? • No Impact.**

The project would not involve loss of farmland to a nonagricultural use or conversion of forest land to non-forest use because the project site is currently vacant and does not contain any agricultural activities or timberland resources. No farmland conversion impacts will occur with the implementation of the proposed project. *As a result, no impacts will occur.*

## MITIGATION MEASURES

The analysis of agricultural and forestry resources indicated that no impact on these resources would occur as part of the proposed project's implementation. As a result, no mitigation is required.

<sup>19</sup> California Department of Conservation. *State of California Williamson Act Contract Land*.  
[http://ftp.consrv.ca.gov/pub/dlrp/WA/2012%20Statewide%20Map/WA\\_2012\\_8x11.pdf](http://ftp.consrv.ca.gov/pub/dlrp/WA/2012%20Statewide%20Map/WA_2012_8x11.pdf).



**EXHIBIT 3-1 AGRICULTURAL MAP**  
SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION

### 3.3 AIR QUALITY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with or obstruct implementation of the applicable air quality plan?				✗
B. 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?		✗		
C. Would the project expose sensitive receptors to substantial pollutant concentrations?			✗	
D. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on air quality if it results in any of the following:

- The proposed project would conflict with or obstruct implementation of the applicable air quality plan.
- The proposed project would 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.
- The proposed project would expose sensitive receptors to substantial pollutant concentrations.
- The proposed project would result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

The Mojave Desert Air Quality Management District (MDAQMD) has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for the criteria pollutants listed below. Projects in the Mojave Desert Air Basin (MDAB) generating construction and operational-related emissions that exceed any of the following emissions thresholds are considered to be significant under CEQA.

- *Ozone (O<sub>3</sub>)* is a nearly colorless gas that irritates the lungs, and damages materials and vegetation. Ozone is formed by a photochemical reaction (when nitrogen dioxide is broken down by sunlight).
- *Carbon Monoxide (CO)* is a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain and is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust. The threshold is 548 pounds per day of carbon monoxide (CO).

- *Nitrogen Oxide (NO<sub>x</sub>)* is a yellowish-brown gas, which at high levels can cause breathing difficulties. NO<sub>x</sub> is formed when nitric oxide (a pollutant from burning processes) combines with oxygen. The daily threshold is 137 pounds per day of nitrogen oxide (NO<sub>x</sub>).
- *Sulfur Dioxide (SO<sub>2</sub>)* is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms. The daily threshold is 137 pounds per day of sulfur oxides (SO<sub>x</sub>).
- *PM<sub>10</sub> and PM<sub>2.5</sub>* refers to particulate matter less than ten microns and two and one-half microns in diameter, respectively. Particulates of this size cause a greater health risk than larger-sized particles since fine particles can more easily cause irritation. The daily threshold is 82 pounds per day of PM<sub>10</sub> and 65 pounds per day of PM<sub>2.5</sub>.
- *Reactive Organic Gasses (ROG)* refers to organic chemicals that, with the interaction of sunlight photochemical reactions may lead to the creation of “smog.” The daily threshold is 137 pounds per day of ROG.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

### A. *Would the project conflict with or obstruct implementation of the applicable air quality plan? • No Impact.*

The proposed project involves the construction of 99 single-family residential units on a 120-acre site. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>20</sup> The proposed project’s implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. Air quality impacts may occur during the construction or operation of a project, and may come from stationary (e.g., industrial processes, generators), mobile (e.g., automobiles, trucks), or area (e.g., residential water heaters) sources. Projects that are consistent with the projections of employment and population forecasts identified in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by SCAG are considered consistent with the MDAQMP growth projections since the RTP/SCS forms the basis of the land use and transportation control portions of the MDAQMP. According to the Growth Forecast Appendix prepared by SCAG for the 2016-2040 RTP/SCS, the Town of Apple Valley employment will increase from 15,400 in 2016 to 27,600 in 2040, an increase of 12,200 new employees through the year 2040.<sup>21</sup> The proposed project will not require any long-term employment though short-term construction employment occur temporarily during the construction phase. Therefore, the proposed project is not in conflict with the growth projections established for the City by SCAG.

The project’s construction emissions would be below the thresholds of significance established by the MDAQMD (the project’s daily construction emissions are summarized in Table 3-1). In addition, the proposed project’s long-term (operational) airborne emissions will be below levels that the MDAQMD considers to be a significant impact (refer to Table 3-2). *As a result, no conformity impacts will occur.*

<sup>20</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date).

<sup>21</sup> Southern California Association of Governments. *Regional Transportation Plan/Sustainable Communities Strategy 2016-2040. Demographics & Growth Forecast.* April 2016.

**B. 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? • Less than Significant Impact with Mitigation.**

According to the MDAQMD, any project is significant if it triggers or exceeds the daily emissions threshold identified previously and noted at the bottom of Tables 3-1 and 3-2. In general, a project will have the potential for a significant air quality impact if any of the following are met:

- Generates total emissions (direct and indirect) that exceeds the MDAQMD thresholds (the proposed project emissions are less than the thresholds as indicated in Tables 3-1 and 3-2);
- Results in a violation of any ambient air quality standard when added to the local background (the proposed project will not result, in any violation of these standards);
- Does not conform with the applicable attainment or maintenance plan(s) (the proposed project is in conformance with the City's Zoning and General Plan); and,
- Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1 (the proposed project will not expose sensitive receptors to substantial pollutant concentrations nor is the site located near any sensitive receptors).

The proposed project's construction and operation will not lead to a violation of the above-mentioned criteria. The Air Quality analysis of daily construction and operational emissions was prepared by Urban Crossroads, attached as Appendix A. As shown in Table 3-1, daily construction emissions will not exceed the MDAQMD significance thresholds.

**Table 3-1  
Estimated Daily Construction Emissions**

Construction Phase	ROG	NOx	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Preparation (on-site)	2.66	27.17	18.33	0.04	23.54	11.52
Site Preparation (off-site)	0.06	0.03	0.48	--	0.15	0.04
<b>Total Site Preparation</b>	<b>2.72</b>	<b>27.20</b>	<b>18.81</b>	<b>0.04</b>	<b>23.69</b>	<b>11.56</b>
Grading (on-site)	3.22	32.38	27.72	0.06	9.05	4.72
Grading (off-site)	0.07	0.03	0.54	--	0.17	0.04
<b>Total Grading</b>	<b>3.29</b>	<b>32.41</b>	<b>28.26</b>	<b>0.06</b>	<b>9.22</b>	<b>4.76</b>
Building Construction (on-site)	1.47	13.44	16.17	0.03	0.61	0.57
Building Construction (off-site)	0.52	1.99	4.47	0.02	1.46	0.41
<b>Total Building Construction</b>	<b>1.99</b>	<b>15.43</b>	<b>20.64</b>	<b>0.05</b>	<b>2.07</b>	<b>0.98</b>
Paving (on-site)	0.92	8.58	14.58	0.02	0.42	0.38
Paving (off-site)	0.04	0.02	0.33	--	0.12	0.03
<b>Total Paving</b>	<b>0.96</b>	<b>8.60</b>	<b>14.91</b>	<b>0.02</b>	<b>0.54</b>	<b>0.41</b>
Architectural Coating (on-site)	101.54	1.15	1.81	--	0.05	0.05
Architectural Coating (off-site)	0.07	0.03	0.59	--	0.22	0.06
<b>Total Architectural Coating</b>	<b>101.61</b>	<b>1.17</b>	<b>2.30</b>	<b>--</b>	<b>0.27</b>	<b>0.11</b>
<b>Maximum Daily Emissions</b>	<b>32.70</b>	<b>47.10</b>	<b>39.70</b>	<b>0.06</b>	<b>8.42</b>	<b>5.07</b>
<b>Daily Thresholds</b>	<b>137</b>	<b>137</b>	<b>548</b>	<b>137</b>	<b>82</b>	<b>65</b>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod V.2020.4.0



Long-term emissions refer to those air quality impacts that will occur once the proposed project has been constructed and is operational. These impacts will continue over the operational life of the project. The two main sources of operational emissions include mobile emissions and area emissions related to off-site electrical generation. The analysis of long-term operational impacts summarized in Table 3-2 also used the CalEEMod V.2020.4.0 computer model and was provided by Urban Crossroad's Air Quality and GHG Report. The analysis summarized in Table 3-2 indicates that the operational (long-term) emissions will be below the MDAQMD daily emissions thresholds.

**Table 3-2**  
**Estimated Operational Emissions in lbs./day**

<b>Emission Source</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Area-wide (lbs./day)	5.06	1.53	6.22	0.01	0.12	0.12
Energy (lbs./day)	0.05	0.78	0.33	<0.005	0.06	0.06
Mobile (lbs./day)	4.68	3.67	33.10	0.07	2.31	0.45
<b>Total (lbs./day)</b>	<b>9.79</b>	<b>5.98</b>	<b>39.65</b>	<b>0.08</b>	<b>2.49</b>	<b>0.63</b>
<b>Daily Thresholds</b>	<b>137</b>	<b>137</b>	<b>548</b>	<b>137</b>	<b>82</b>	<b>65</b>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Urban Crossroads<sup>22</sup>

The analysis presented in Tables 3-1 and 3-2 reflects projected emissions that are typically higher during the summer months and represent a worse-case scenario. As indicated in Tables 3-1 and 3-2, the impacts are considered to be less than significant. In addition, the MDAQMD Rule Book contains numerous regulations governing various activities undertaken within the district. Among these regulations is Rule 403.2 – Fugitive Dust Control which was adopted in 1996 for the purpose of controlling fugitive dust. Adherence to Rule 403.2 regulations is required for all projects undertaken within the district. All internal roadways and parking areas will be paved. Future construction truck drivers must also adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes.<sup>3</sup> The following mitigation measures have been incorporated herein to further reduce the potential air quality impacts to levels that are less than significant.

- The Applicant shall prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;
- The Applicant shall ensure that signage, compliant with Rule 403 Attachment B, is erected at each project site entrance not later than the commencement of construction.
- The Applicant shall ensure the use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.
- All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be

<sup>22</sup> Urban Crossroads. *Apple Valley TTM 20453 Air Quality, Greenhouse & Gas Assessment*. December 6, 2022.

superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

- All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related track out onto paved surfaces and clean any project-related track out within 24 hours. All other earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion.

*The impacts will be less than significant with adherence to the above mitigation.*

**C. Would the project expose sensitive receptors to substantial pollutant concentrations? • Less than Significant Impact.**

According to the MDAQMD, residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. Sensitive receptors in the vicinity of the project are shown in Exhibit 3-2. According to the MDAQMD, the following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated: any industrial project within 1,000 feet; a distribution center (40 or more trucks per day) within 1,000 feet; a major transportation project within 1,000 feet; a dry cleaner using perchloroethylene within 500 feet; and a gasoline dispensing facility within 300 feet. The nearest sensitive receptor is adjacent to the project site as the surrounding environment is residential development. As indicated previously, the proposed project's short-term and long-term emissions would be below the MDAQMD's thresholds of significance. The proposed project would not impact any sensitive receptors. *As a result, the impacts would be less than significant.*

**D. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? • Less than Significant Impact.**

The proposed residential development is not expected to emit any nuisance odors given the proposed project's residential use. In addition, construction truck drivers must adhere to Title 13 - §2485 of the California Code of Regulations, which limits the idling of diesel-powered vehicles to less than five minutes, which helps to reduce exhaust-related odors. Furthermore, the project's contractors must adhere to all pertinent MDAQMD and CARB rules and regulations that govern odors. *As a result, the impacts would be less than significant.*

## MITIGATION MEASURES

The following mitigation measures have been incorporated herein to further reduce the potential air quality impacts to levels that are less than significant.

*Air Quality Mitigation Measure No. 1.* The Applicant shall prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;

*Air Quality Mitigation Measure No. 2.* The Applicant shall ensure that signage, compliant with Rule 403 Attachment B, is erected at each project site entrance not later than the commencement of construction.

*Air Quality Mitigation Measure No. 3.* The Applicant shall ensure the use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

*Air Quality Mitigation Measure No. 4.* All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule, or project-specific biological mitigation prohibiting wind fencing.

*Air Quality Mitigation Measure No. 5.* All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related track out onto paved surfaces and clean any project-related track out within 24 hours. All other earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion.



### 3.4 BIOLOGICAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		✗		
B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✗	
C. 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?				✗
D. 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?			✗	
E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		✗		
F. 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?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on biological resources if it results in any of the following:

- The proposed project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- The proposed project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- The proposed project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- The proposed project would 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.

- The proposed project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- The proposed project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Sensitive biological resources include a variety of plant and animal species that are specialized and endemic to a particular habitat type. Due to loss of habitat, some of these species have been designated by either, or both, the federal and state government resource agencies as threatened or endangered. Species listed as threatened include those whose numbers have dropped to such low levels and/or whose populations are so isolated that the continuation of the species could be jeopardized. Endangered species are those with such limited numbers or subject to such extreme circumstances that they are considered in imminent danger of extinction. Other government agencies and resource organizations also identify sensitive species, those that are naturally rare and that have been locally depleted and put at risk by human activities. While not in imminent danger of jeopardy or extinction, sensitive species are considered vulnerable and can become candidates for future listing as threatened or endangered.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? • Less than Significant Impact with Mitigation.*

The proposed project involves construction of 99 single-family homes on a 120-acre site. The proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>23</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. The proposed project site is largely vacant and undeveloped. The site is approximately 891 meters above sea level.<sup>24</sup> The site shows heavy disturbance in the form of vehicular activity. A Biological Study was conducted by RCA Associates, attached as Appendix B, on July 20, 2022, to determine the special-status species recorded in the area.

Currently, there are three wildlife species considered special status in the Town of Apple Valley USGS quadrangle. These species include burrowing owl, desert tortoise, and Mohave ground squirrel. The site has a hilly contour which is heavily disturbed and supports a ruderal plant community. The creosote bush community supports creosote bush (*Larrea tridentata*), kelch grass (*Schismus barbatus*), Nevada jointfir (*Ephedra nevadensis*), red-stem storksbill (*Erodium cicutarium*) coyote melon (*Cucurbita californica*) Joshua Tree (*Yucca brevifolia*) and white bursage (*Ambrosia dumosa*).

On September 22, 2020, CDFW has listed the western Joshua Tree as a temporary endangered candidate for one year until a final decision is made and is therefore illegal to remove or transplant a tree without an approved Incidental Take Permit (ITP) provided by CDFW. The Joshua Tree is also a protected plant in the

<sup>23</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

<sup>24</sup> RCA Associates, Inc. *General Biological Resources Assessments.* Report dated July 20, 2022.

County of San Bernardino under the Native Desert Plant Protection Plan (Ordinance Chapter 88.01.060). The Western Joshua tree (*Yucca brevifolia*), a candidate threatened species under the California Endangered Species Act (CESA), was observed on site. As a result, an Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees.

One mammal, the California ground squirrel (*Otospermophilus beecheyi*), was observed on site. This mammal is not protected or endangered. Other mammals that are expected to occur include desert cottontails (*Sylvilagus audubonii*), antelope ground squirrel (*Ammospermophilus leucurus*), and black-tailed jackrabbit (*Lepus californicus*). Coyotes (*Canis latrans*) may also occasionally occur on site during hunting activities. Birds observed included ravens (*Corvus corax*), turkey vulture (*Cathartes aura*) Red tailed hawk (*Buteo jamaicensis*), anna's hummingbird (*Calypte anna*) and house finch (*Haemorhous mexicanus*).<sup>25</sup> No reptiles were observed during the survey.<sup>26</sup> Reptiles that may occur on the site include the desert spiny lizard (*Sceloporus magister*), zebra-tailed lizard (*Callisaurus draconoides*), the western whiptail lizard (*Cnemidophorus tigris*), the long nose leopard lizard (*Gambelia wislizenii*), and the common side-blotched lizard (*Uta stansburiana*).<sup>27</sup> The analysis of biological impacts determined that the following mitigation measures would be required to reduce the project's impacts to levels that would be less than significant.

- Pre-construction surveys for burrowing owls, desert tortoise, and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of project-related ground disturbance.<sup>28</sup> a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as the desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.<sup>29</sup> Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as the projects sites zone of influence.<sup>30</sup>
- If any other sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the "take" of any sensitive species and can approve the implementation of any applicable mitigation measures.<sup>31</sup>

*The impacts would be less than significant with mitigation.*

**B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? • Less than Significant Impact.**

<sup>25</sup> RCA Associates, Inc. *General Biological Resources Assessments*. Report dated July 20, 2022.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

According to the United States Fish and Wildlife Service and the results of the site visits, there are no wetland or migratory bird nesting areas located within the project site.<sup>32</sup> The site in its entirety is undeveloped though portions have undergone disturbance. In addition, there is no riparian habitat located on-site or in the surrounding areas.<sup>33</sup> However, according to the wetlands mapper (USFW), a blueline stream runs across the middle of the property, but since the site has been graded no evidence of that stream was visible during the July 2022 field survey.<sup>34</sup> The field biologist indicated that all evidence of this stream has been removed and no streambed alteration permit would be required. *As a result, the impacts are expected to be less than significant.*

**C.** *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? • No Impact.*

No federally protected wetland areas or riparian habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.<sup>35</sup> The site in its entirety is undeveloped though portions have been disturbed. *As a result, no impacts are anticipated.*

**D.** *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? • Less than Significant Impact.*

The project site's Zoning designation is Residential Agriculture (R-A). The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. The development of the project site will have a minimal impact on the biological resources and most of the vegetation will be removed during construction activities. Wildlife will be impacted by development activities and limited mobility species will have an increase in mortality while mobile species will be displaced into the adjacent area. *As a result, impact will be less than significant.*

**E.** *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? • Less than Significant Impact with Mitigation*

Joshua Trees are protected under Chapter 9.76 of the Town of Apple Valley's Municipal Code. As a result, an Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees. Joshua trees occur throughout the Mojave Desert in Southern California and are typically found at an elevation of 1,200 to 5,400 feet. There are 10 Joshua trees located on the property and zero of the trees are suitable for relocation/transplanting. This conclusion was based on: (1) trees which were one foot or greater in height and less than twelve feet tall (approximate); (2) in good health; (3), two branches or less; (4) density of trees (i.e., no clonal trees); (5) no exposed roots; (6) and trees that are not leaning over excessively.<sup>36</sup> The following criteria will be utilized by the contractor when conducting any future transplanting activities:

<sup>32</sup> United States Fish and Wildlife Service. *National Wetlands Inventory*.

<sup>33</sup> RCA Associates, Inc. *General Biological Resources Assessments*. Report dated July 20, 2022.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

- The Joshua trees will be retained in place or replanted somewhere on the site where they can remain in perpetuity or will be transplanted to an off-site area approved by the city where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded as per City requirements. An Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees.<sup>37</sup>
- Earthen berms will be created around each tree by the biologist prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.<sup>38</sup>
- Each tree will be moved to a pre-selected location which has already been excavated and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the trees and the trees were also flagged with surveyor's flagging. The biologist will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation. An Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees.<sup>39</sup>

*The impacts would be less than significant with mitigation.*

**F. 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?**  
• No Impact.

The proposed project's implementation would not be in conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans. *As a result, no impacts are anticipated.*

## MITIGATION MEASURES

The analysis of biological impacts determined that the following mitigation measures would be required to reduce the project's impacts to levels that would be less than significant.

*Biological Resources Mitigation Measure No.1* Pre-construction surveys for burrowing owls, desert tortoise, and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.<sup>40</sup>

- a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as the desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting

<sup>37</sup> RCA Associates, Inc. *Protected Plant Preservation Plan*. Report dated July 27, 2022.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.<sup>41</sup>

*Biological Resources Mitigation Measure No. 2* If any other sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the “take” of any sensitive species and can approve the implementation of any applicable mitigation measures.<sup>42</sup>

*Biological Resources Mitigation Measure No.3* The Joshua trees will be retained in place or replanted somewhere on the site where they can remain in perpetuity or will be transplanted to an off-site area approved by the city where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded as per City requirements. An Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees.

*Biological Resources Mitigation Measure No. 4* Earthen berms will be created around each tree by the biologist prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.<sup>43</sup>

*Biological Resources Mitigation Measure No.5* Each tree will be moved to a pre-selected location which has already been excavated and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the trees and the trees were also flagged with surveyor’s flagging. The biologist will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation. An Incidental Take Permit (ITP) must be granted by the CDFW for the removal or modification of any Joshua Trees.

---

<sup>41</sup> RCA Associates, Inc. *Protected Plant Preservation Plan*. Report dated July 27, 2022.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.



### 3.5 CULTURAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project cause substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✗
B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✗		
C. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on cultural resources if it results in any of the following:

- The proposed project would cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.
- The proposed project would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- The proposed project would disturb any human remains, including those interred outside of formal cemeteries.

Historic structures and sites are defined by local, State, and Federal criteria. A site or structure may be historically significant if it is locally protected through a General Plan or historic preservation ordinance. In addition, a site or structure may be historically significant according to State or Federal criteria even if the locality does not recognize such significance. To be considered eligible for the National Register, a property's significance may be determined if the property is associated with events, activities, or developments that were important in the past, with the lives of people who were important in the past, or represents significant architectural, landscape, or engineering elements. Specific criteria include the following:

- Districts, sites, buildings, structures, and objects that are associated with the lives of significant persons in or past;
- Districts, sites, buildings, structures, and objects that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,
- Districts, sites, buildings, structures, and objects that have yielded or may be likely to yield information important in history or prehistory.

Ordinarily, properties that have achieved significance within the past 50 years are not considered eligible for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;
- Districts, sites, buildings, structures, and objects that are associated with events that have made a significant contribution to the broad patterns of our history;
- A building or structure removed from its original location that is significant for architectural value, or which is the surviving structure is associated with a historic person or event;
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life;
- A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- A property achieving significance within the past 50 years if it is of exceptional importance.<sup>44</sup>

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? • No Impact.*

The proposed project involves the construction of a 99-unit residential development on a 120-acre site. In addition, the proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>45</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. The State has established *California Historical Landmarks* that include sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. *California Points of Historical Interest* has a similar definition, except they are deemed of local significance. A few

<sup>44</sup> U. S. Department of the Interior, National Park Service. National Register of Historic Places. <http://nrhp.focus.nps.gov>. 2010.

<sup>45</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453*. Town of Apple Valley. Sheet 1 of 1. (No Date).

searches of the National Register of Historic Places and the list of California Historical Resources were conducted, and it was determined that no historic resources were listed within the Town of Apple Valley.<sup>46</sup>

The proposed project would not affect any structures or historical resources listed on the National or State Register or those identified as being eligible for listing on the National or State Register. Furthermore, the project site is not present on the list of historic resources identified by the State Office of Historic Preservation (SHPO).<sup>47</sup> The proposed project will be limited to the project site and will not affect any structures or historical resources listed on the National or State Register or those identified as being eligible for listing on the National or State Register. On August 26, 2022, CRM archaeologists conducted an intensive pedestrian field survey of the 120-acre project area. Field inspection documented a cluster of poured concrete foundations where imagery analysis documented circa-1950 complex had been located until at least 1986. No trace was seen of the 1902 road documented from historical maps. No CRHR-eligible / CEQA important cultural resources were observed during the field survey. The project's implementation will not impact any Federal, State, or locally designated historic resources. *As a result, no impact will result.*

**B. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? • Less than Significant Impact with Mitigation.***

On August 26, 2022, DUKE CRM conducted a records search at the South-Central Coastal Information Center (SCCIC). The SCCIC is part of the California Historical Resources Information System (CHRIS) and is located at California State University, Fullerton. The records search included a review of all recorded cultural resources and reports within a ½-mile radius of the Project. No cultural resources have been recorded within the project area, but four recorded cultural resources have been found within a half-mile radius of the project. DUKE CRM has also conducted a review of on-line historical aerial photographs and historic United States Geological Survey (USGS) quad maps utilizing University of California, Santa Barbara (UCSB) FrameFinder and USGS Historical Topographic Map Explorer.<sup>48</sup> No paleontological or cultural resources were identified as a result of these surveys.<sup>49</sup>

DUKE CRM assessed the proposed project site for potentially significant impacts to paleontological and cultural resources under CEQA. Research and field survey did not identify any paleontological resources within the project site, and research suggests that the project area can be considered to have a low sensitivity for paleontological resources. Based on this assessment, no further paleontological investigation is warranted. No cultural resources are recorded within the project area, and the pedestrian survey did not identify any significant prehistoric or historical cultural resources. Also, groups that inhabited this area include the Serrano (Vanyume or Desert Serrano), the Kitanemuk, the Kawaiisu, and the Tataviam, all of Takic or Numic descent. They were mobile hunter gatherer groups with seasonal camps located based on local or regional resources. In addition, the Town of Apple Valley was historically a heavily visited location as it was a migratory stop along the Mojave Indian Trail but the first permanent residents weren't established until 1867.<sup>50</sup> Based on these factors, the project area is assessed as having a moderate sensitivity

<sup>46</sup> U. S. Department of the Interior, National Park Service. *National Register of Historic Places*. Secondary Source: California State Parks, Office of Historic Preservation. *Listed California Historical Resources*. Website accessed November 24, 2022.

<sup>47</sup> California Department of Parks and Recreation. *California Historical Resources*. Website accessed on November 24, 2022.

<sup>48</sup> Duke CRM. *Cultural and Paleontological Resources Assessment, TTM 20453 Project, Town of Apple Valley, County of San Bernardino, California*. September 2022.

<sup>49</sup> Ibid.

<sup>50</sup> Ibid.

for cultural resources, and archaeological monitoring of ground disturbing activities is recommended.<sup>51</sup> Since it is possible that previously unrecognized resources could exist at the site, the proposed project would be required to adhere to the following mitigation measures:

- Prior to the issuance of a grading permit, the Applicant shall provide evidence to the Town of Apple Valley that a qualified archaeologist/paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.
- The archaeologist/paleontologist monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments at or below four (4) feet below ground surface and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The archaeologist/paleontologist monitor shall be empowered to temporarily halt or divert equipment to allow the removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified archaeologist/paleontologist personnel to have a low potential to contain or yield fossil resources.
- Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage, such as the San Bernardino County Museum in San Bernardino, California, is required for significant discoveries. The archaeologist/paleontologist must have a written repository agreement in hand prior to initiation of mitigation activities.
- A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered, if any, and necessary maps and graphics to accurately record the original location of the specimens. The report shall be submitted to the Town of Apple Valley prior to building final.
- Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits and paleontological resources. In the event that field personnel encounter buried cultural materials and/or paleontological resources, work in the immediate vicinity of the find should cease and a qualified archaeologist/paleontologists must be retrained to assess the significance of the find. The qualified archaeologist/paleontologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist/paleontologist finds that any cultural resources present meet eligibility requirements for listing on the California register or the national register of historic places (national register), plans for the treatments, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:
  - Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;

---

<sup>51</sup>Duke CRM. *Cultural and Paleontological Resources Assessment, TTM 20453 Project, Town of Apple Valley, County of San Bernardino, California*. September 2022.

- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- Pre-historic flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and/or cryptocrystalline silicates;
- Dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, ground stone and fire affected rocks; and Human remains.

*Adherence to the aforementioned mitigation measures would reduce the impacts to levels that are less than significant.*

**C. Would the project disturb any human remains, including those interred outside of dedicated cemeteries? • Less than Significant Impact.**

There are no dedicated cemeteries located in the vicinity of the project site. The proposed project will be restricted to the project site and therefore will not affect any dedicated cemeteries in the vicinity. Notwithstanding, the following mitigation is mandated by the California Code of Regulations (CCR) Section 15064.5(b)(4):

“A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of a historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.”

Additionally, Section 5097.98 of the Public Resources Code states:

“In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with (b) Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning the investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.”

Adherence to the aforementioned standard condition will be required in the event human burials are encountered during grading. *As a result, the impacts would be less than significant.*

## MITIGATION MEASURES

The following mitigation measures will be required to address potential cultural resources impacts:

*Cultural Resources Mitigation Measure No. 1.* Prior to the issuance of a grading permit, the Applicant shall provide evidence to the Town of Apple Valley that a qualified archaeologist/paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.

*Cultural Resources Mitigation Measure No. 2.* The archaeologist/paleontologist monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments at or below four (4) feet below ground surface and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The archaeologist/paleontologist monitor shall be empowered to temporarily halt or divert equipment to allow of removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified archaeologist/paleontologist personnel to have a low potential to contain or yield fossil resources.

*Cultural Resources Mitigation Measure No. 3.* Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage, such as the San Bernardino County Museum in San Bernardino, California, is required for significant discoveries. The archaeologist/paleontologist must have a written repository agreement in hand prior to initiation of mitigation activities.

*Cultural Resources Mitigation Measure No. 4.* A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered, if any, and necessary maps and graphics to accurately record the original location of the specimens. The report shall be submitted to the Town of Apple Valley prior to building final.

*Cultural Resources Mitigation Measure No. 5.* Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits and paleontological resources. In the event that field personnel encounter buried cultural materials and/or paleontological resources, work in the immediate vicinity of the find should cease and a qualified archaeologist/paleontologists must be retrained to assess the significance of the find. The qualified archaeologist/paleontologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist/paleontologist finds that any cultural resources present meet eligibility requirements for listing on the California register or the national register of historic places (national register), plans for the treatments, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;



- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- Pre-historic flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and/or cryptocrystalline silicates;
- Dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, ground stone and fire affected rocks, and Human remains.

### 3.6 ENERGY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			✗	
B. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on energy resources if it results in any of the following:

- The proposed project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during the proposed project's construction or operation.
- The proposed project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Energy and natural gas consumption were estimated using default energy intensities by building type in CalEEMod. In addition, it was assumed the new buildings would be constructed pursuant to the 2022 CALGreen standards, which was considered in the CalEEMod inputs.

#### ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? • Less than Significant Impact.*

Southern California Edison (SCE) will provide electricity to the project site. Currently, the existing site is vacant and does not use electricity. Therefore, the proposed project would cause a permanent increase in demand for electricity when compared to existing conditions. The increased demand is expected to be sufficiently served by the existing SCE electrical facilities. According to the worksheets provided in Appendix B, the proposed project is anticipated to consume 1,525.7 kWh daily. The proposed project is located within the service area of the Southwest Gas Company. The project site is currently vacant and has no demand for natural gas. Therefore, the development of the proposed project will create a permanent increase in the demand for natural gas. According to the worksheets provided in Appendix B, the proposed project is anticipated to consume 1,807.8 cubic feet of natural gas on a daily basis.

During construction, the proposed project would consume energy related to the use of fuels used to power construction vehicles and other equipment that would be used during site clearing, grading, and

construction. Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project site was based on the projected number of trips the proposed project would generate during construction, the average trip distances by trip type, and fuel efficiencies estimated in the CalEEMod analysis emission model. Energy consumed during construction would be temporary in nature and would not present a significant demand on energy resources. The proposed project would be constructed pursuant to the 2022 energy standards of Title 24.

Construction equipment greater than 150 horsepower (hp), is also required to comply with the Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications. For engines from 175 to less than 750 hp, the Tier 4 Final regulations took effect on January 1, 2014. For engines from 49 to less than 75 hp, it took effect on January 1, 2013. Finally, for engines from 75 to less than 175 hp, Tier 4 the Tier 4 regulations took effect on January 1, 2015. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Therefore, no significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction are anticipated and no mitigation measures are required. As a result, the impacts would be less than significant.

**Table 3-3**  
**Proposed Project's Energy Consumption**

Energy Type	Annual Energy Consumption
Electrical Consumption	1,525.7 kWh/Unit/Day
Natural Gas Consumption	1,807.8 Cu. Ft/Day

Source: Yorke Engineering LLC. & Blodgett Baylosis Environmental Planning

Between 2005 and 2019, the number of community SCE accounts in Apple Valley increased by 1,292 (9.6%) and total annual electricity consumption increased by 16,796,113 kwh (5.4%). There was a total kWh increase in the residential sector of 9,539,612 kWh (4.8%) due to population growth and the increase in residential accounts; however, the number of kWh consumed per residential account decreased by 368 kWh (-4.38%) This kWh per account decrease is in part due to the increased efficiencies in SCE electricity production, but also the expansion of rooftop solar and compliance with Title 24 Building Efficiency Standards (Title 24, Part 6 and 11). The number of natural gas accounts in Apple Valley increased by 4,208 (17.9%) between 2005 and 2019 and annual Community natural gas consumption increased by 1,902,787 therms (14%). Per account usage decreased by approximately 5.3% in the residential sector, increased 21% in the commercial sector, and decreased 67% in the industrial sector (includes water pumping and electric generation). Overall, total community natural gas usage was approximately 15,413,836 therms in 2019. The decrease in per account usage in the residential sector, accompanied by an overall increase in the number of accounts and natural gas usage, can be attributed to increased building efficiencies required by the Title 24 Building Energy Efficiency Standards and energy efficient appliances. *As a result, the anticipated energy impacts will be less than significant.*

**B. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? • Less Than Significant Impact.**

On January 12, 2010, the State Building Standards Commission adopted updates to the California Green Building Standards Code (Code) which became effective on January 1, 2011. The California Code of Regulations (CCR) Title 24, Part 11: California Green Building Standards (Title 24) became effective to aid efforts to reduce GHG emissions associated with energy consumption. Title 24 now requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. The proposed project as well as any future development within the remainder of the project site will be required to conform to all pertinent energy conservation requirements. The proposed project will be required to comply with all pertinent Title 24 requirements along with other Low Impact Development (LID) requirements. In addition, the proposed project would be in conformance with Town of Apple Valley's Climate Action Plan and Resource Element: Energy Conservation of the City General Plan. These policies include the following:

- *Policy ND-12.* Building and site plan designs shall ensure that the project energy efficiencies meet applicable California Title 24 Energy Efficiency Standards. Verification of increased energy efficiencies shall be documented in Title 24 Compliance Reports provided by the applicant and reviewed and approved by the Town prior to the issuance of the first building permit. Any combination of the following design features may be used to fulfill this measure provided that the total increase in efficiency meets or exceeds Title 24 standards:
  - Buildings shall meet or exceed California Title 24 Energy Efficiency performance standards for water heating and space heating and cooling.
  - Increase in insulation such that heat transfer and thermal bridging is minimized.
  - Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.
  - Incorporate dual-paned or other energy efficient windows.
  - Incorporate energy efficient space heating and cooling equipment.
  - Incorporate the use of tankless water heaters in all residential units and community buildings.
  - Promote building design that will incorporate solar control in an effort to minimize direct sunlight upon windows. A combination of design features including roof eaves, recessed windows, "eyebrow" shades and shade trees shall be considered.
  - Interior and exterior energy efficient lighting which exceeds the California Title 24 Energy Efficiency performance standards shall be installed, as deemed acceptable by Town. Automatic devices to turn off lights when they are not needed shall be implemented.
  - To the extent that they are compatible with landscaping guidelines established by the Town, shade producing trees, particularly those that shade paved surfaces such as streets and parking lots and buildings shall be planted at the Project site.
  - Paint and surface color palette for the Project shall emphasize light and off-white colors which will reflect heat away from the buildings.

- All buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar electricity systems, and wind energy systems on properties greater than 2 acres, appropriate to their architectural design.
- Consideration shall be given to using LED lighting for all outdoor uses (i.e. buildings, pathways, landscaping, carports).
- *Policy ND-13.* For residential projects, implement Green Building practices and document GHG reduction.
- *Policy ND-14.* Use passive solar design by orienting buildings and incorporating landscaping to maximize passive solar heating during the winter and minimize solar heating during the summer.
- *Policy ND-15.* To reduce energy demand associated with potable water conveyance:
  - Landscaping palette emphasizing drought tolerant plants and exceeding Town standards for water conservation.
  - For residential uses, limit turf areas to no more than 25% of all landscaped areas. Encourage limiting turf areas to no more than 20% for added water/energy savings. Turf is prohibited in public rights-of-way, including parkways, and in non-residential uses with the exception of Special Landscaping Areas. (Town Municipal Code Chapter 9.75 Water Conservation/Landscaping).
  - Use of water-efficient irrigation techniques exceeding Town standards for water conservation.
  - U.S. EPA Certified *WaterSense* labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.
  - Consider use of artificial turf.
- *Policy ND-16.* Install Energy Star appliances and energy efficient fixtures.
- *Policy ND-17.* Install all CFL or LED light bulbs.
- *Policy ND-18.* Install common area electric vehicle charging station(s) and secure bicycle racks.

Both of these plans support energy conservation energy consumption and GHG emissions to become a more sustainable community and to meet the goals of AB 32. As a result, the potential impacts will be less than significant.

## MITIGATION MEASURES

The analysis determined that the proposed project would not result in any significant impacts on energy. As a result, no mitigation would be required.

### 3.7 GEOLOGY & SOILS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
<b>A.</b> Would the project directly or indirectly, cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			✗	
<b>i).</b> Would the project, directly or indirectly, cause 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.				✗
<b>ii).</b> Would the project, directly or indirectly cause strong seismic ground shaking?			✗	
<b>iii).</b> Would the project, directly or indirectly cause seismic-related ground failure, including liquefaction.				✗
<b>iv).</b> Would the project, directly or indirectly cause landslides?				✗
<b>B.</b> Would the project result in substantial soil erosion or the loss of topsoil?			✗	
<b>C.</b> 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?			✗	
<b>D.</b> 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?			✗	
<b>E.</b> 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?				✗
<b>F.</b> Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✗		

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on geology and soils if it results in any of the following:

- The proposed project would, 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); strong seismic ground shaking; seismic-related ground failure, including liquefaction; and, landslides?
- The proposed project would result in substantial soil erosion or the loss of topsoil.



- The proposed project would 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.
- The proposed project would 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.
- The proposed project would 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 directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The proposed project's potential seismic and soils risk was evaluated in terms of the site's proximity to earthquake faults and unstable soils.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. Would the project, directly or indirectly, cause potential substantial adverse effects, including the risk of loss, injury, or death involving? • Less than Significant Impact.**

The Town of Apple Valley is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the proposed project site. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. A list of cities and counties subject to the Alquist-Priolo Earthquake Fault Zones is available on the State's Department of Conservation website. The Town of Apple Valley is not on the list.<sup>52</sup> The nearest fault to the project site is the North Frontal Thrust System, which is located approximately 18 miles east of the Town.<sup>53</sup>

Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two. The amount of ground shaking depends on the intensity of the earthquake, the duration of shaking, soil conditions, type of building, and distance from the epicenter or fault. The potential impacts from fault rupture and ground shaking are considered no greater for the project site than for the surrounding areas given the distance between the site and the fault trace. Other potential seismic issues include ground failure and liquefaction. Ground failure is the loss in stability of the ground and includes landslides, liquefaction, and lateral spreading. The project site is not located in a moderate liquefaction zone.<sup>54</sup> According to the United States Geological Survey, liquefaction is the process by which water-saturated sediment temporarily loses strength and acts as a fluid. The risk for liquefaction is no greater on-site than it is for the region. *As a result, the impacts will be less than significant.*

<sup>52</sup> California Department of Conservation. *Table 4, Cities and Counties Affected by Alquist Priolo Earthquake Fault Zones as of January 2010.*

<sup>53</sup> California Department of Conservation. *The Helendale Fault.*  
[http://gmw.conservacion.ca.gov/SHP/EZRIM/Reports/FER/262/FER\\_262\\_Report\\_20160610.pdf](http://gmw.conservacion.ca.gov/SHP/EZRIM/Reports/FER/262/FER_262_Report_20160610.pdf).

<sup>54</sup> San Bernardino County. *Multi-Jurisdictional Hazard Mitigation Plan* - July 13, 2017.  
SECTION 3.7 • GEOLOGY & SOILS

**i. Would the project, directly or indirectly, cause rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; Refer to Division of Mines and Geology Special Publication 42. • No Impact**

The Town of Apple Valley is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the proposed project site. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. A list of cities and counties subject to the Alquist-Priolo Earthquake Fault Zones is available on the State's Department of Conservation website. The Town of Apple Valley is not on the list.<sup>55</sup> The nearest fault to the project site is the North Frontal Thrust System, which is located approximately 2.9 miles southeast of the project site as shown in Exhibit 3-3. *As a result, no impacts will occur.*

**ii. Would the project, directly or indirectly cause strong seismic ground shaking? • Less than Significant Impact**

The proposed project involves the construction of 99 residential units with two parks. The effects of ground motion on structures are difficult to predict and depend on a variety of factors including the intensity of the quake, the distance from the epicenter to the site, the composition of soils and bedrock, building design, and other building characteristics. Based on these factors, ground shaking can result in minimal to significant damage. In general, peak ground accelerations and seismic intensity values decrease with increasing distance from the earthquake. Local conditions, such as soft soils, shallow ground water, and the presence of ridge tops, could amplify the effects of seismic waves and result in higher localized accelerations. The Uniform Building Code, California Building Code, and Unreinforced Masonry Law are the primary tools used by agencies to ensure seismic safety in structures. Seismic activity could also result in significant damage to smaller structures. The greatest hazard related to smaller structures is that of unreinforced masonry buildings, the failure of which can cause foundations to shift and result in gas leaks, fires, and exposed power lines. The Town requires all new buildings to utilize reinforced masonry, as well as comply with the Uniform Building Code (UBC), which is expected to enable structures to resist major earthquakes without collapsing, although structural damage could occur. Unreinforced masonry buildings within the Town have been retrofitted in compliance with state law. The concerns with respect to unreinforced masonry would not apply to the proposed new development. The proposed units would consist of wood frame construction and will not be susceptible to strong ground motion. The new development would also be required to conform to the most current Building Code requirements. *As a result, the impacts will be less than significant.*

**iii. Would the project, directly or indirectly cause seismic-related ground failure, including liquefaction • No Impact**

According to the United States Geological Survey, liquefaction is the process by which water-saturated sediment temporarily loses strength and acts as a fluid. The alluvium that underlies Apple Valley is coarsely granular and well drained. Although the water table is not within 50 feet of the ground surface throughout most of the area, water-saturated sediment within 50 feet of the surface occurs locally within the Mojave

<sup>55</sup> California Department of Conservation. *Table 4, Cities and Counties Affected by Alquist Priolo Earthquake Fault Zones as of January 2010.*

River floodplain The project site is located just outside of a liquefaction zone.<sup>56</sup> *As a result, no impacts will occur.*

**iv. Would the project, directly or indirectly cause landslides? • No Impact**

According to the United States Geological Survey, a landslide is defined as the movement of a mass of rock, debris, or earth down a slope. The project site is generally level with little to no sloping in the surrounding area. *As a result, no impacts will occur.*

**B. Would the project result in substantial soil erosion or the loss of topsoil? • Less than Significant Impact.**

The University of California, Davis SoilWeb database was consulted to determine the nature of the soils that underlie the project site. According to the University of California, Davis SoilWeb database, the property is underlain by soils of Kimberlina, Cajon, and Helendale variant soils associations on the northern portion of the project site with slopes range from 2 to 5 percent.<sup>57</sup> The proposed project's contractors will be required to adhere to specific requirements that govern wind and water erosion during site preparation and construction activities. Following development, a large portion of the project site would be paved over and landscaped. The project's construction will not result in soil erosion with adherence to those development requirements that restrict stormwater runoff (and the resulting erosion) and require soil stabilization. In addition, stormwater discharges from construction activities that disturb one or more acres, or smaller sites disturbing less than one acre that are part of a common plan of development or sale, are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program. Prior to initiating construction, contractors must obtain coverage under an NPDES permit, which is administered by the State. In order to obtain an NPDES permit, the project Applicant must prepare a Stormwater Pollution Prevention Plan (SWPPP). Both of these requirements are identified as mitigation measures. The County has identified sample construction Best Management Practices (BMPs) that may be included in the mandatory SWPPP. The use of these construction BMPs identified in the mandatory SWPPP will prevent soil erosion and the discharge of sediment into the local storm drains during the project's construction phase. *As a result, the impacts will be less than significant.*

**C. 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? • Less than Significant Impact.**

The proposed project's construction will not result in soil erosion since the project's contractors must implement the construction BMPs identified in the mandatory SWPPP. The BMPs will minimize soil erosion and the discharge of sediment off-site. Additionally, the project site is not located within an area that could be subject to landslides or liquefaction.<sup>58</sup> The soils that underlie the project site possess a low potential for shrinking and swelling. Soils that exhibit certain shrink-swell characteristics become sticky when wet and expand according to the moisture content present at the time. Since the soils have a low shrink-swell potential, lateral spreading resulting from an influx of groundwater is slim. The likelihood of lateral spreading will be further reduced since the project's implementation will not require grading and excavation that would extend to depths required to encounter groundwater. Moreover, the project will not

<sup>56</sup> San Bernardino County. *Multi-Jurisdictional Hazard Mitigation Plan* - July 13, 2017.

<sup>57</sup> UC Davis. *SoilWeb*. Website accessed November 22, 2022.

<sup>58</sup> United States Department of Agriculture. Natural Resources Conservation Service. Website accessed November 22, 2022.

result in the direct extraction of groundwater. *As a result, the impacts will be less than significant.*

**D. 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? • Less than Significant Impact.**

Expansive soils are those that contain significant amounts of clay minerals resulting in the ability to give up water (shrink) or absorb water (swell), which allows these soils to expand (or shrink) as a result of changes in moisture content. The pressure differential induced by the shrinking or swelling of expansive soils can have significant harmful effects upon structures and other surface improvements. In the Town of Apple Valley and the vicinity, expansive soils are primarily associated with areas underlain by older fan deposits containing argillic (clay-rich) soil profiles, which are in the moderately expansive range. In addition, the Apple Valley Dry Lake contains very fine-grained silts and clays that are potentially expansive. Alluvial fan sediments, composed primarily of granular soils, underlie the low-lying areas of the Town and the expansion potential ranges from very low to moderately low. The University of California, Davis SoilWeb database was consulted to determine the nature of the soils that underlie the project site. According to the University of California, Davis SoilWeb database, the property is underlain by soils of Kimberlina, Cajon, and Helendale variant soils associations on the northern portion of the project site with slopes ranging from 2 to 5 percent.<sup>59</sup> According to the U.S. Department of Agriculture, these soils are acceptable for the development of smaller buildings.<sup>60</sup> The applicant is required to adhere to all requirements detailed by the USDA. *As a result, the impacts will be less than significant.*

**E. 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? • No Impact.**

The proposed project will connect to the Town's sanitary sewer system. As a result, no impacts associated with the use of septic tanks will occur as part of the proposed project's implementation.

**F. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? • Less than Significant Impact with Mitigation.**

The proposed development will be constructed in the south-central portion of the Town of Apple Valley. The surface deposits in the proposed project area are composed entirely of younger Quaternary Alluvium. This younger Quaternary Alluvium is unlikely to contain significant vertebrate fossils, at least in the uppermost layers. The closest fossil vertebrate locality is LACM 7786, between Town of Apple Valley and the former George Air Force Base. This locality produced a fossil specimen of meadow vole, *Microtus*. The next closest vertebrate fossil locality from these deposits is LACM 1219, west of Spring Valley Lake, which produced a specimen of fossil camel, *Camelops*. Additionally, on the western side of the Mojave River below the bluffs, an otherwise unrecorded specimen of mammoth was collected in 1961 from older Quaternary Alluvium deposits. Two mitigation measures (Mitigation Measure 1 and Mitigation Measure 2) included in Section 3.5, would also address the potential for the discovery of paleontological resources that may be encountered during ground disturbance. These measures are listed below:

- Prior to the issuance of a grading permit, the Applicant shall provide evidence to the Town of Apple

<sup>59</sup> UC Davis. *SoilWeb*. Website accessed February 2, 2023.

<sup>60</sup> United States Department of Agriculture. Natural Resources Conservation Service. Website accessed February 3, 2023.

Valley that a qualified archaeologist/paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.

- The archaeologist/paleontologist monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments at or below four (4) feet below ground surface and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The archaeologist/paleontologist monitor shall be empowered to temporarily halt or divert equipment to allow the removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified archaeologist/paleontologist personnel to have a low potential to contain or yield fossil resources.

*As a result, the impacts will be less than significant with mitigation.*

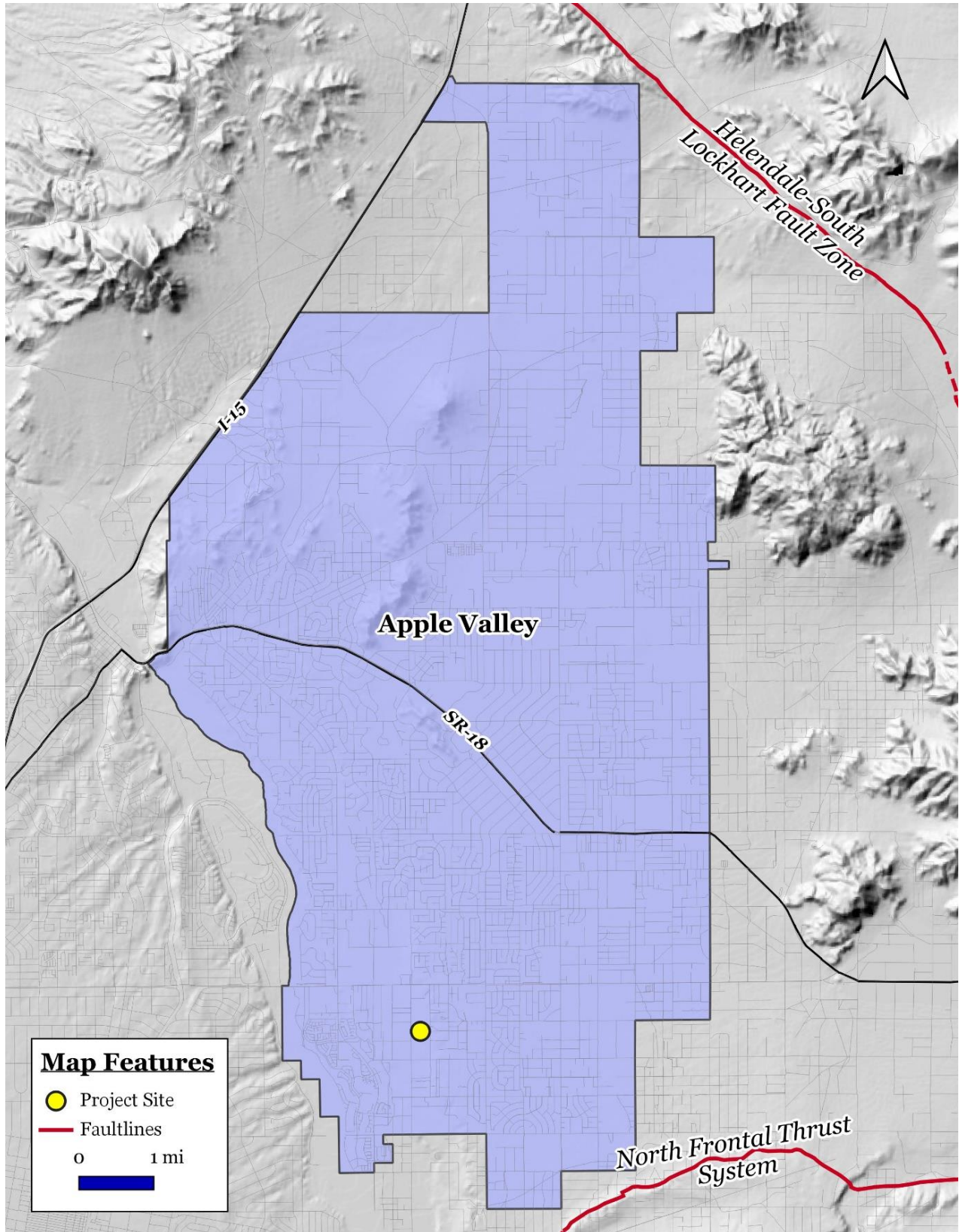
## MITIGATION MEASURES

The analysis determined that the proposed project would require the following mitigation measures to ensure the appropriate protocols are adhered to address potential paleontological resources impacts.

*Cultural Resources Mitigation Measure No. 1.* Prior to the issuance of a grading permit, the Applicant shall provide evidence to the Town of Apple Valley that a qualified archaeologist/paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.

*Cultural Resources Mitigation Measure No. 2.* The archaeologist/paleontologist monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments at or below four (4) feet below ground surface and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The archaeologist/paleontologist monitor shall be empowered to temporarily halt or divert equipment to allow the removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified archaeologist/paleontologist personnel to have a low potential to contain or yield fossil resources.





**EXHIBIT 3-4 GEOLOGY MAP**  
SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION

### 3.8 GREENHOUSE GAS EMISSIONS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✗	
B. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on greenhouse gas emissions if it results in any of the following:

- The proposed project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- The proposed project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be about 61°F cooler. However, emissions from fossil fuel combustion have elevated the concentrations of GHG in the atmosphere to above natural levels. These man-made GHG will have the effect of warming atmospheric temperatures with the attendant impacts of changes in the global climate, increased sea levels, and changes to the worldwide biome. The major GHG that influences global warming are described below.

- *Water Vapor.* Water vapor is the most abundant GHG present in the atmosphere. While water vapor is not considered a pollutant, while it remains in the atmosphere it maintains a climate necessary for life. Changes in the atmospheric concentration of water vapor are directly related to the warming of the atmosphere rather than a direct result of industrialization. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to “hold” more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. When water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation. This will allow less energy to reach the Earth’s surface thereby affecting surface temperatures.
- *Carbon Dioxide (CO<sub>2</sub>).* The natural production and absorption of CO<sub>2</sub> is achieved through the terrestrial biosphere and the ocean. Manmade sources of CO<sub>2</sub> include the burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700’s, these activities have increased the atmospheric concentrations of CO<sub>2</sub>. Prior to the industrial revolution, concentrations

were fairly stable at 280 parts per million (ppm), from the International Panel on Climate Change (IPCC Fifth Assessment Report, 2014). Emissions of CO<sub>2</sub> from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010.

- *Methane (CH<sub>4</sub>)*. CH<sub>4</sub> is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO<sub>2</sub>. Methane's lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO<sub>2</sub>, N<sub>2</sub>O, and Chlorofluorocarbons (CFCs)). CH<sub>4</sub> has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other human-related sources of methane production include fossil-fuel combustion and biomass burning.
- *Nitrous Oxide (N<sub>2</sub>O)*. Concentrations of N<sub>2</sub>O also began to increase at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N<sub>2</sub>O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant.
- *Chlorofluorocarbons (CFC)*. CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C<sub>2</sub>H<sub>6</sub>) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.
- *Hydrofluorocarbons (HFC)*. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF<sub>3</sub>), HFC-134a (CF<sub>3</sub>CH<sub>2</sub>F), and HFC-152a (CH<sub>3</sub>CHF<sub>2</sub>). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade and used for applications such as automobile air conditioners and refrigerants.
- *Perfluorocarbons (PFC)*. PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF<sub>4</sub>) and hexafluoroethane (C<sub>2</sub>F<sub>6</sub>). Concentrations of CF<sub>4</sub> in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

- *Sulfur Hexafluoride (SF<sub>6</sub>)*. SF<sub>6</sub> is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF<sub>6</sub> has the highest global warming potential of any gas evaluated; 23,900 times that of CO<sub>2</sub>. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

The MDAQMD mass emissions threshold is 100,000 tons (90,720 metric tons (MT)) CO<sub>2</sub>e per year.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? • Less than Significant Impact.**

The proposed project involves the construction of a 99 single family unit residential development on a 120-acre site. The proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>61</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. Operational measures incorporate typical code required energy and water conservation features. Off-site traffic impacts are included in these emissions estimates, along with construction emissions amortized over 30 years. *As a result, the impacts will be less than significant.*

**Table 3-4  
Total Project GHG Emissions**

Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	R	Total CO <sub>2</sub> E
Annual construction emissions amortized over 30 years	39.57	1.67E-03	6.67E-04	0.0113	39.87
Mobile Source	1086	0.05	0.06	1.86	1105
Area Source	71	< 0.005	< 0.005	0	71.1
Energy Source	283	0.03	< 0.005	0	285
Water	26.1	0.14	< 0.005	0	30.5
Waste	8.54	0.85	0.00	0	29.9
Refrigerants	0	0.00	0.00	0.2	0.2
Total CO <sub>2</sub> E (All Sources)	1,561.57				

Source: Urban Crossroads

**B. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases? • Less than Significant Impact**

The Town of Apple Valley General Plan includes policies and programs that broadly support energy efficiency and sustainability. Applicable and relevant policies are listed below and on the following page:

- *Policy 1.A:* The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the

<sup>61</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).



planning and construction of urban uses.

- *Policy 1.H:* Encourage energy-conservation and passive design concepts that make use of the natural climate to increase energy efficiency and reduce housing costs.
- *Policy 1.A:* The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.
- *Long Term Implementation Strategy AQ 1.2.9:* The Town has the opportunity to provide leadership in reducing employee-related air pollutant emissions. Progressive Town programs to reduce vehicle-mile-traveled, vehicle trips, solid waste, and energy consumption would improve air quality.
- *Policy 1.A:* The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.
- *Policy 1.B.3:* The Town shall encourage building design that takes advantage of shade, prevailing winds and sun screens. Energy efficient lighting and installation of colored “cool roofs”, cool pavement and strategically planted shade trees should also be encouraged. The Town shall support the installation of solar panels on carports and over parking areas where appropriate.
- *Policy NR 1.1:* The Town shall promote the development and use of alternative energy sources, such as passive solar in industrial, commercial, and residential developments.
- *Policy 1.A:* The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.
- *Policy 1.D:* The Town will encourage and facilitate the exploitation of local renewable resources by supporting public and private initiatives to develop and operate alternative systems of electricity generation, using wind, solar and other renewable energies.
- *City Objective 3:* Use of xerophytic (drought tolerant) landscape materials are to be emphasized. School children, public officials, and community organizations should be involved in the planting and care of trees at schools and playgrounds and families should be involved in neighborhood and park development programs.
- *Policy 1.J:* The Town shall implement a coordinated and connected bicycle lane network consistent with the Bicycle Lane Map in this Element.
- *Policy 1.K:* The Town shall provide for a comprehensive, interconnected recreational trails system suitable for bicycles, equestrians and/or pedestrians.
- *Policy 1.A:* The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.
- *Program 1.E.3:* The Town shall require the recycling of mineral-based construction materials, including asphalt, concrete, gypsum and similar materials, and the use of recycled materials in new construction.



- *Policy 1.A:* The Town will cooperate with Federal, State and County governments and local agencies concerning the maintenance and improvement of the quality and quantity of local and regional groundwater resources.
- *Water Resources Policy 1.A:* The Town shall coordinate land development and assure a balance of development and water supply that ensures the long-term maintenance of an adequate supply of water, and its continued high quality.
- *Policy 1.F:* Consistent with community design standards and local and regional drainage plans, the Town shall provide development standards and guidelines for the construction of on-site storm water retention facilities.
- *Policy 1.A.* The Town will cooperate with Federal, State and County governments and local agencies concerning the maintenance and improvement of the quality and quantity of local and regional groundwater resources.
- *Policy 1.A.* The Town will require low water use through drought tolerant and native desert plants for landscaping.

This project will not adversely affect the implementation of those policies. As a result, the project will not involve or require any variance from an adopted plan, policy, or regulation governing GHG emissions. The GHG Screening Table was used to evaluate this project pursuant to the GHG Reduction Plan to identify relevant mitigation. *As a result, the impacts will be less than significant.*

## MITIGATION MEASURES

The analysis of potential impacts related to greenhouse gas emissions indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

### 3.9 HAZARDS & HAZARDOUS MATERIALS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			×	
B. 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?			×	
C. 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?				×
D. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				×
E. 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?				×
F. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				×
G. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				×
E. Would the project 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?				×
F. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				×
G. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				×

### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on hazards and hazardous materials if it results in any of the following:

- The proposed project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- The proposed project would create a significant hazard to the public or the environment through

reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- The proposed project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- The proposed project would 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.
- The proposed project would result in a safety hazard or excessive noise for people residing or working in the project area 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.
- The proposed project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- The proposed project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in a wide variety of products (household cleaners, industrial solvents, paint, pesticides, etc.) and in the manufacturing of products (e.g., electronics, newspapers, plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; and households. Accidental releases of hazardous materials can occur from a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? • Less than Significant Impact.***

The proposed project involves construction of 99 single-family units within a 120-acre site. The proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>62</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

The project's construction would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Other hazardous materials that would be used on-site during the project's construction phase include, but are not limited to,

<sup>62</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

gasoline, solvents, architectural coatings, and equipment lubricants. These products are strictly controlled and regulated and in the event of any spill, cleanup activities would be required to adhere to all pertinent protocols. *As a result, the impacts will be less than significant.*

**B.** *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? • Less than Significant Impact.*

The project's construction would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Other hazardous materials that would be used on-site during the project's construction phase include, but are not limited to, gasoline, solvents, architectural coatings, and equipment lubricants. These products are strictly controlled and regulated and in the event of any spill, cleanup activities would be required to adhere to all pertinent protocols. The Applicant will be required to prepare a safety and hazard mitigation plan that indicates those protocols that must be adhered to in the event of an accident. This plan will be reviewed and approved by the city prior to the issuance of the Occupancy Permit. As indicated in Subsection D, the project site is not listed in either the CalEPA's Cortese List or the Envirostor database. As a result, the likelihood of encountering contamination or other environmental concerns during the project's construction phase is remote. *As a result, the impacts will be less than significant.*

**C.** *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? • No Impact.*

The nearest school to the project site is Sandia Academy, located 1.26 miles east of the project. Due to the project site's distance from the school, the proposed project will not create a hazard. *As a result, no impacts are anticipated.*

**D.** *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? • No Impact.*

Government Code Section 65962.5 refers to the Hazardous Waste and Substances Site List, commonly known as the Cortese List. The Cortese List is a planning document used by the State and other local agencies to comply with CEQA requirements that require the provision of information regarding the location of hazardous materials release sites. A search was conducted through the California Department of Toxic Substances Control Envirostor website to identify whether the project site is listed in the database as a Cortese site. The project site is not identified as a Cortese site.<sup>63</sup> *As a result, no impacts will occur.*

**E.** *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 a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? • No Impact.*

The project site is not located within an airport land use plan and is not located within two miles of a public

<sup>63</sup> CalEPA. *DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List)*.  
[http://www.dtsc.ca.gov/SiteCleanup/Cortese\\_List.cfm](http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm).

airport or public use airport.<sup>64</sup> The nearest major airport to the town is the Southern California Logistics Airport located approximately 11 miles northwest of the project site.<sup>65</sup> The Apple Valley Airport is located 7.8 miles northeast of the project site. The project will not introduce a structure that will interfere with the approach and take off airplanes utilizing any regional airports. *As a result, no impacts will occur.*

**F.** *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? • No Impact.*

At no time will any adjacent street be completely closed to traffic during the proposed project's construction. In addition, all construction staging must occur on-site. *As a result, no impacts will occur.*

**G.** *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? • No Impact.*

The project site is located in an urban area. The project site along with the entire town is located within a "moderate fire hazard severity zone" and Local Responsibility Area (LRA).<sup>66</sup> *As a result, no impacts will result.*

## MITIGATION MEASURES

The analysis of potential impacts related to hazards and hazardous materials indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

---

<sup>64</sup> Toll-Free Airline. *Riverside Public and Private Airports, California*. <http://www.tollfreeairline.com/california/riverside.htm>.

<sup>65</sup> Google Maps. Website accessed February 1, 2023.

<sup>66</sup> CalFire. *Very High Fire Hazard Severity Zone Map for SW San Bernardino County*. [http://frap.fire.ca.gov/webdata/maps/san\\_bernardino\\_sw/](http://frap.fire.ca.gov/webdata/maps/san_bernardino_sw/)



### 3.10 HYDROLOGY & WATER QUALITY

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			✗	
B. 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?			✗	
C. 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 or,			✗	
i) Would the project result in substantial erosion or siltation on- or off-site;			✗	
ii) Would the project substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site.			✗	
iii) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✗	
iv) Would the project impede or redirect flood flows?			✗	
D. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?				✗
E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✗	

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on hydrology and water quality if it results in any of the following:

- The proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- The proposed project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- The proposed project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing

or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or, impede or redirect flood flows.

- The proposed project would risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.
- The proposed project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? • Less than Significant Impact.***

The proposed project involves the construction of a 99-unit single family residential development on a 120-acre site. The proposed development would include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map would be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>67</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

The proposed development site will be located in the south-central portion of the Town of Apple Valley. The project Applicant will be required to adhere to Chapter 6.40 - Erosion and Sediment Control, of the municipal code regulates erosion and sediment control. In addition, stormwater discharges from construction activities that disturb one or more acres, or smaller sites disturbing less than one acre that are part of a common plan of development or sale, are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program. *As a result, the impacts will be less than significant.*

**B. *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? • Less than Significant Impact.***

No new direct construction-related impacts to groundwater supplies, or groundwater recharge activities would occur as part of the proposed project's implementation (also refer herein to Subsection E). Water used to control fugitive dust will be transported to the site via truck. No direct groundwater extraction will occur. Furthermore, the construction and post-construction BMPs will address contaminants of concern from excess runoff, thereby preventing the contamination of local groundwater. As a result, there would be no direct groundwater withdrawals associated with the proposed project's implementation. *As a result, the impacts will be less than significant.*

---

<sup>67</sup>Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

**C.** *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? • Less than Significant Impact.*

The site is presently undeveloped though there are no stream channels or natural drainages that occupy the property. The site would be designed so the proposed hardscape surfaces (the building and paved areas) will percolate into the landscape parkway areas. *As a result, the impacts will be less than significant.*

**i.** *Would the project result in a substantial erosion or siltation on- or off-site; • Less than Significant Impact*

The project applicant will be required to abide by Town of Apple Valley's City Ordinance Chapter 6.40 that requires all applicants for projects involving construction activities, regardless of size, to submit an erosion and sediment control plan ("ESCP") to the Town for review and approval as mentioned in subsection A. *As a result, the impact will be less than significant.*

**ii.** *Would the project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; • Less than Significant Impact*

The project's construction and operation will be restricted to the designated project site and the project will not increase the amount of any stream or river that would lead to on- or off-site siltation or erosion. Once implemented, the proposed project will change the site's drainage characteristics. Predevelopment, the entire site is covered over in earth and pervious surfaces. Following development, the majority of the site, with the exception of the landscaped areas consisting of 67,745 square feet, will be covered over in impervious surfaces. *As a result, the impacts will be less than significant.*

**iii.** *Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; • Less than Significant Impact*

The project's construction would be restricted to the site and would not alter the course of any stream or channel or river that would lead to on- or off-site siltation or erosion. As a result, the potential impacts are considered to be less than significant.<sup>68</sup>

**iv.** *Would the project impede or redirect flood flows? • Less than Significant Impact*

The proposed project is partially situated in a Zone X and Zone D flood zone, an area of minimal flood hazard.<sup>69</sup> The nearest flood zone is situated approximately 1 mile to the southwest and the project's construction and operation will be restricted to the project site. *As a result, the impacts will be less than significant.*

<sup>68</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date).

<sup>69</sup> Federal Emergency Management Agency. *Flood Insurance Rate Mapping Program.* 2022.

**D. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? • No Impact.**

As mentioned previously, the proposed project site is not located within a Flood Hazard zone.<sup>70</sup> The proposed project site is not located in an area that is subject to inundation by seiche or tsunami. In addition, the project site is located inland approximately 70 miles from the Pacific Ocean and the project site would not be exposed to the effects of a tsunami.<sup>71</sup> *As a result, no impacts are anticipated.*

**E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? • Less than Significant Impact.**

The project site and the Town of Apple Valley are located within the Upper Mojave River Valley Groundwater Basin. Recharge of the Upper Mojave River Valley Groundwater Basin occurs from direct percolation of precipitation, ephemeral stream flow, infrequent surface flow of the Mojave River, and underflow of the Mojave River into the basin from the southwest. In addition, other waters that percolate into the ground and recharge the groundwater system include the following: treated wastewater effluent, septic tank effluent, effluent from two fish hatchery operations, and irrigation waters. A large but highly sporadic contribution to groundwater recharge occurs when there is flow in the Mojave River. The general direction of groundwater flow in the basin is toward the active channel of the Mojave River, where it generally follows the course of the river through the valley. The Helendale fault forms a barrier to groundwater flow in the southeast corner of the basin; this barrier causes groundwater to flow northwestward under a surface drainage divide into the Mojave River drainage instead of northeastward into Lucerne Lake (dry) in the Lucerne Valley Basin.

The Town of Apple Valley Municipal Code includes Ordinances that apply to water conservation so as to minimize water demand and to maintain sustainable water supply in the service area. These include Chapter 6.40, Water Conservation Plan, Section 6.40.030, Water Regulations, which requires that all water users in the Town of Apple Valley comply with specific water conservation measures. Exemptions are allowed to avoid undue hardship to a water user, to protect public health and safety, or under special circumstances subject to approval. The proposed project is required to be in compliance with Chapter 6.40 of the Town of Apple Valley Municipal Code. In addition, the project's operation will not interfere with any groundwater management or recharge plan because there are no active groundwater management recharge activities on-site or in the vicinity. *As a result, the impacts will be less than significant.*

## MITIGATION MEASURES

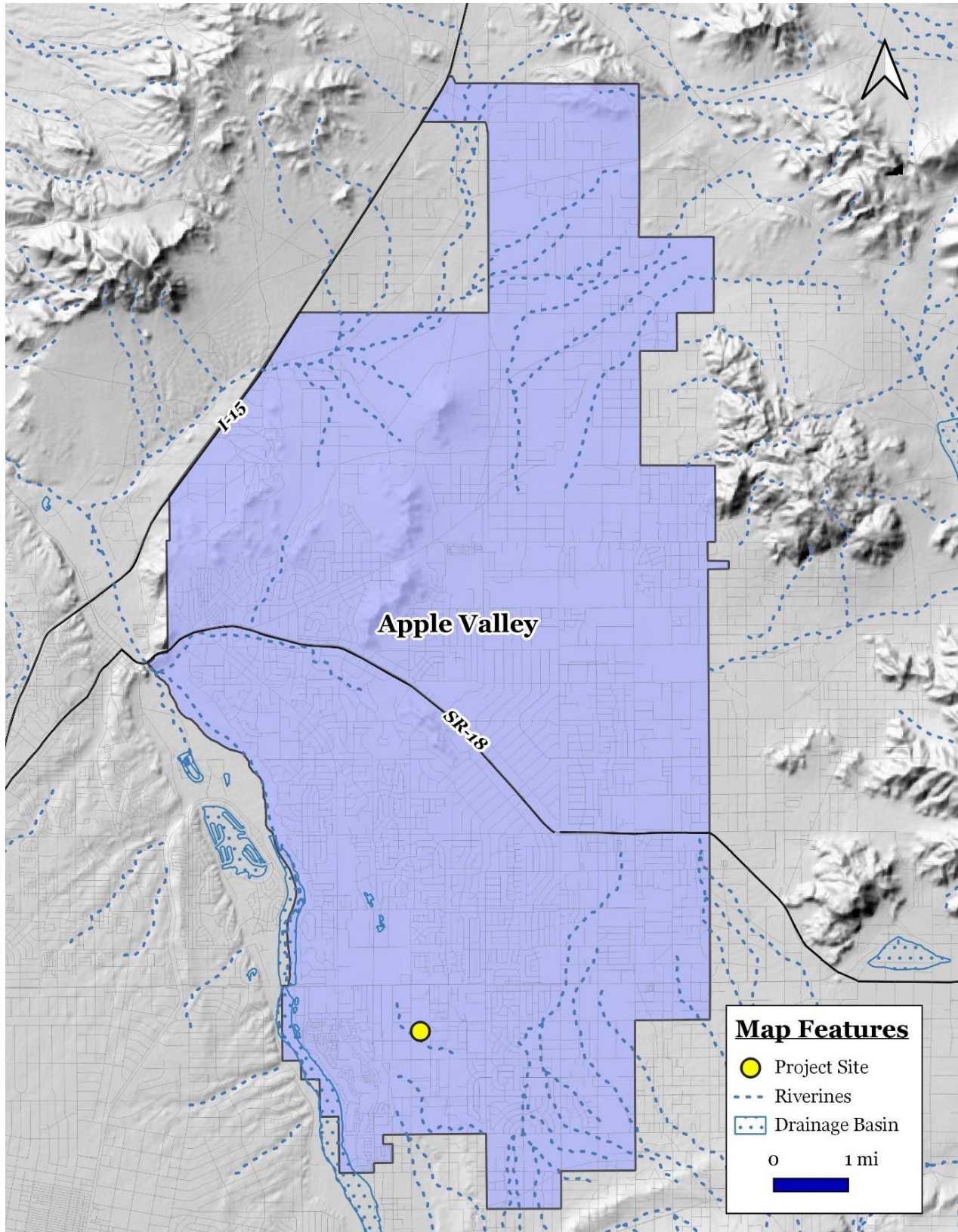
As indicated previously, hydrological characteristics will not substantially change as a result of the proposed project. As a result, no mitigation is required.

---

<sup>70</sup> Ibid

<sup>71</sup> Google Earth. Website accessed January 31, 2023.





**EXHIBIT 3-5 WATER RESOURCES MAP**  
SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION



### 3.11 LAND USE & PLANNING

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project physically divide an established community?				✗
B. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, acting as Lead Agency, a project may be deemed to have a significant adverse impact on land use and planning resources if it results in any of the following:

- The proposed project would physically divide an established community.
- The proposed project would 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.

#### ANALYSIS OF ENVIRONMENTAL IMPACTS

##### A. *Would the project physically divide an established community?* • No Impact.

The proposed project involves the construction of a residential development on a proposed 120 acres tentative tract map. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The proposed project will consist of 99 lots that will contain single-family homes. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>72</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

The area where the proposed development would be located is currently vacant and undisturbed. Other land uses and development located in the vicinity of the proposed project are outlined below:

- *North of the project site:* Gupan Road extends along the project site's north side. Sparse residential development abuts the project site to the north. This area is zoned as Mixed Use (M-U).

<sup>72</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

- *East of the project site:* Savage Lane extends along the site's eastern side. Residential properties are located to the east of the project site. This area is zoned as Low Density Residential (R-LD).
- *South of the project site:* Del Oro Road extends along the project site's south side. Residential and Agricultural land uses are situated here. This area is zoned as Residential Agriculture (R-A).<sup>73</sup>
- *West of the project site:* Deep Creek Road extends along the project site's west side. Residential and Agricultural development is located here. This area is zoned a Residential Agriculture (Residential Agriculture).<sup>74</sup>

The granting of the requested entitlements and subsequent construction of the proposed project will not result in any expansion of the use beyond the current boundaries. As a result, the project will not lead to any division of an existing established neighborhood. *As a result, no impact will result.*

**B.** *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? • No Impact.*

The project site is located within an area designated as Residential Agriculture (R-A) within the Town of Apple Valley General Plan Land Use Element. This category of land use is characterized by the surrounding residential developments. The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. The main feature of residential activities in this category is that they do not require any significant site or structure requirements that are so specialized that would limit future use of the structures. The proposed development would be consistent with the Town of Apple Valley General Plan and Zoning Ordinance. *As a result, no impact will result.*

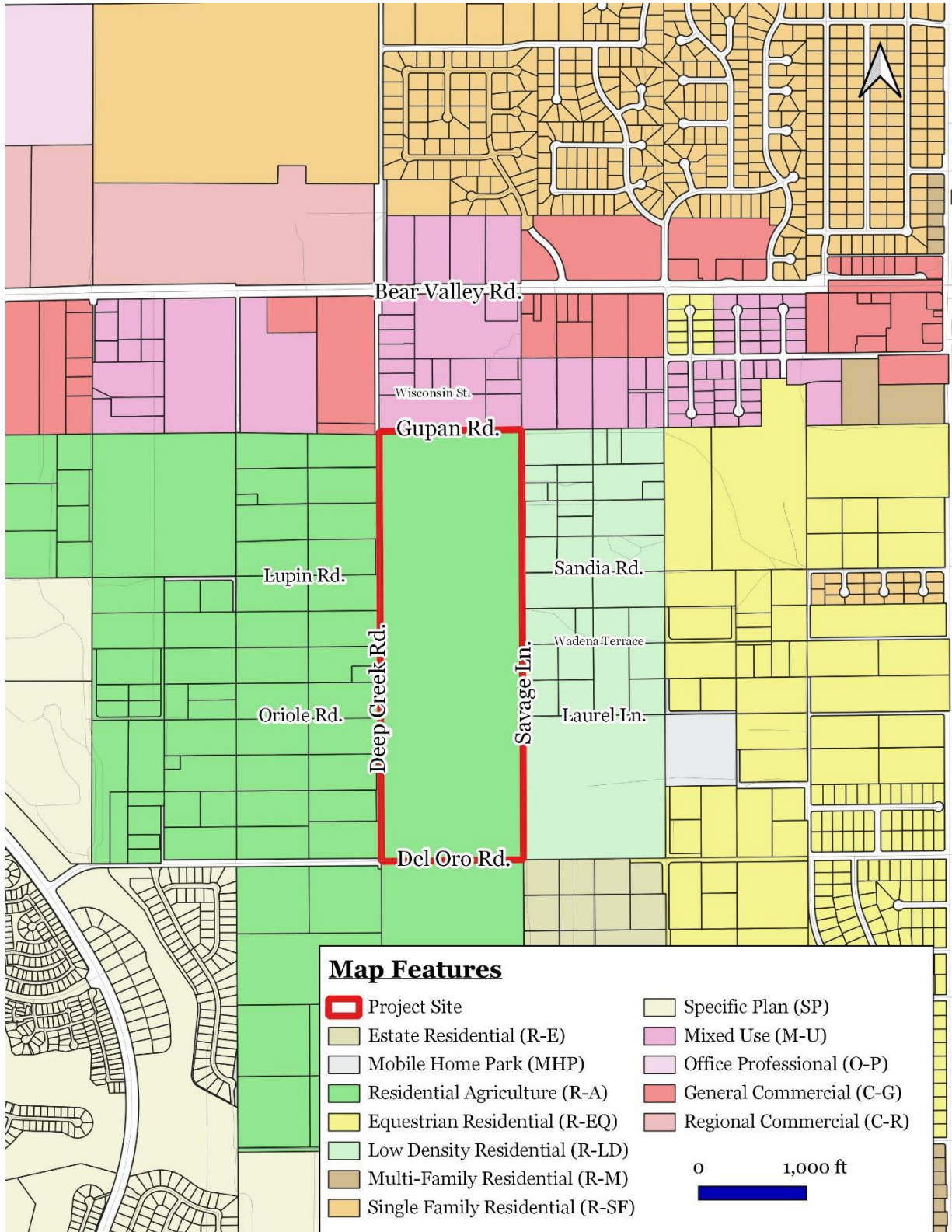
## MITIGATION MEASURES

The analysis determined that no impacts on land use and planning would result upon the implementation of the proposed project. As a result, no mitigation measures are required.

---

<sup>73</sup> Google Maps and Town of Apple Valley Zoning Map. Website accessed February 2, 2023.

<sup>74</sup> Ibid.



## EXHIBIT 3-6 LAND USE AND ZONING MAP

SOURCE: TOWN OF APPLE VALLEY

### 3.12 MINERAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✗
B. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on mineral resources if it results in any of the following:

- The proposed project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Surface Mining and Reclamation Act of 1975 (SMARA) has developed mineral land classification maps and reports to assist in the protection and development of mineral resources. According to the SMARA, the following four mineral land use classifications are identified:

- *Mineral Resource Zone 1 (MRZ-1)*: This land use classification refers to areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- *Mineral Resource Zone 2 (MRZ-2)*: This land use classification refers to areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- *Mineral Resource Zone 3 (MRZ-3)*: This land use classification refers to areas where the significance of mineral deposits cannot be evaluated from the available data. Hilly or mountainous areas underlain by sedimentary, metamorphic, or igneous rock types and lowland areas underlain by alluvial wash or fan material are often included in this category. Additional information about the quality of material in these areas could either upgrade the classification to MRZ-2 or downgrade it to MRZ-1.
- *Mineral Resource Zone 4 (MRZ-4)*: This land use classification refers to areas where available information is inadequate for assignment to any other mineral resource zone.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? • No Impact.*

A review of California Division of Oil, Gas, and Geothermal Resources well finder indicates that there are no wells located in the vicinity of the project site.<sup>75</sup> The project site is not located in a Significant Mineral Aggregate Resource Area (SMARA) nor is it located in an area with active mineral extraction activities. A review of California Division of Oil, Gas, and Geothermal Resources well finder indicates that there are no wells located in the vicinity of the project site.<sup>76</sup> The project site is located within Mineral Resource Zone (MRZ-3A), which means there may be significant mineral resources present.<sup>77</sup> As indicated previously, the site is undeveloped and there are no active mineral extraction activities occurring on-site or in the adjacent properties. As a result, no impacts to mineral resources will occur.

**B.** *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? • No Impact.*

As previously mentioned, no mineral, oil, or energy extraction and/or generation activities are located within the project site. Moreover, the proposed project will not interfere with any resource extraction activity. Therefore, no impacts will result from the implementation of the proposed project.

## MITIGATION MEASURES

The analysis of potential impacts related to mineral resources indicated that no significant adverse impacts would result from the approval of the proposed project and its subsequent implementation. As a result, no mitigation measures are required.

---

<sup>75</sup> California, State of. Department of Conservation. *California Oil, Gas, and Geothermal Resources Well Finder*. <https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-117.41448/34.56284/14>.

<sup>76</sup>Ibid.

<sup>77</sup> California Department of Conservation. *Mineral Land Classification Map for the Town of Apple Valley Quadrangle*. Map accessed January 31, 2023.



### 3.13 NOISE

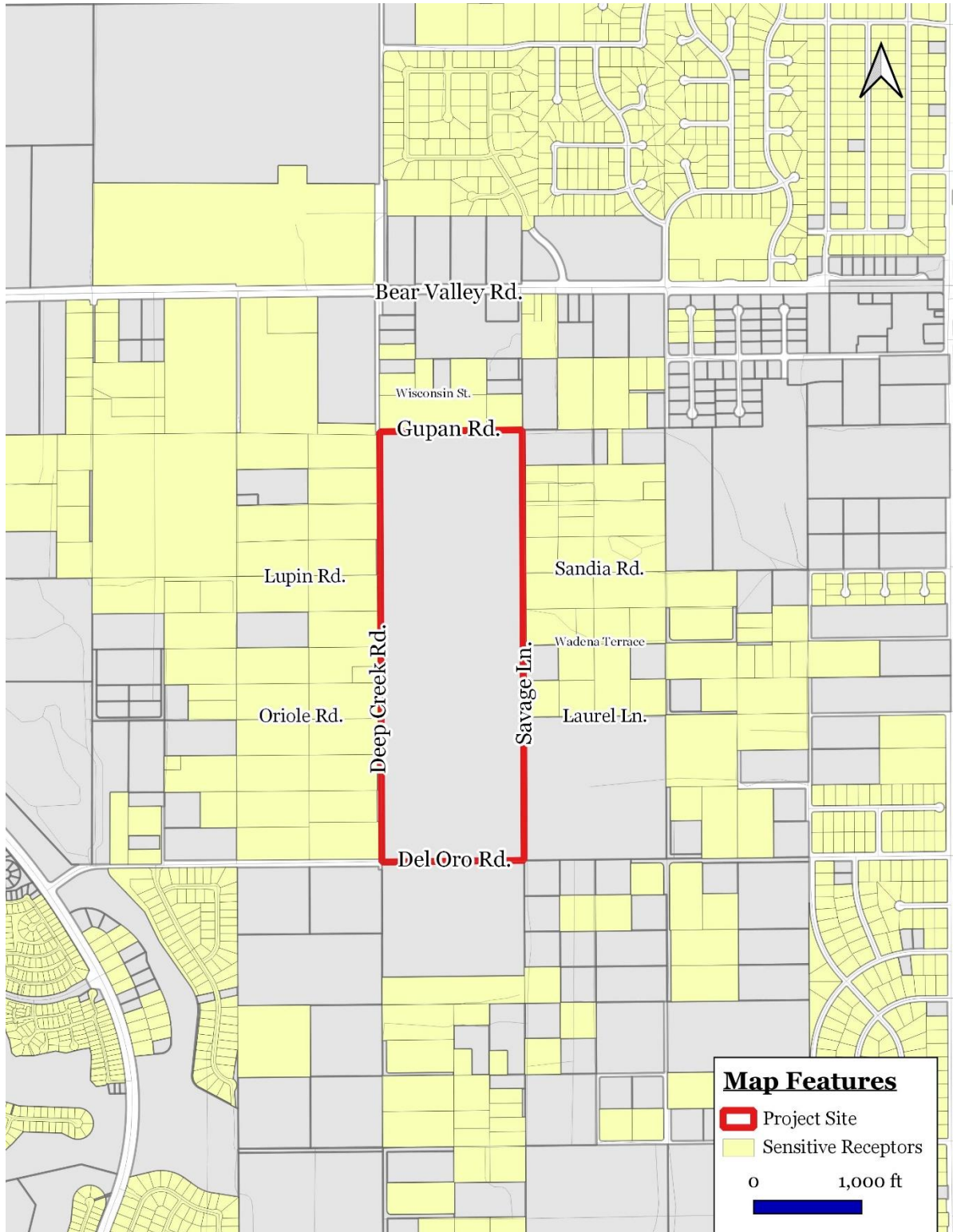
Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✗		
B. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?			✗	
C. 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?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on noise if it results in any of the following:






- The proposed project would result in 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.
- The proposed project would result in the generation of excessive ground borne vibration or ground borne noise levels.
- For a proposed 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?

Noise levels may be described using a number of methods designed to evaluate the “loudness” of a particular noise. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans. The eardrum may rupture at 140 dB. In general, an increase of between 3.0 dB and 5.0 dB in the ambient noise level is considered to represent the threshold for human sensitivity. Noise level increases of 3.0 dB or less are not generally perceptible to persons with average hearing abilities. Noise sensitive land uses in the area are shown in Exhibit 3-7. The most commonly used unit for measuring the level of sound is the decibel (dB). Zero on the decibel scale represents the lowest limit of sound that can be heard by humans. Noise levels associated with common everyday activities are illustrated in Exhibit 3-8.



## EXHIBIT 3-7 NOISE SENSITIVE LAND USES

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

dB LEVELS		
 <b>Serious Injury</b>	165	
	160	
	155	
	150	
 <b>Pain</b>	145	
	140	sonic boom
	135	
	130	
	125	jet take off at 200 ft.
	120	
 <b>Discomfort</b>	139	music in night club interior
	110	motorcycle at 20 ft.
	105	power mower
	100	
	95	freight train at 50 ft.
	90	food blender
 <b>Range of Typical Noise Levels</b>	85	electric mixer, light rail train horn
	80	
	75	
	70	portable fan, roadway traffic at 50 ft.
	65	
	60	dishwasher, air conditioner
	55	
	50	normal conversation
	45	refrigerator, light traffic at 100 ft.
	40	
	35	library interior (quiet study area)
 <b>Threshold of Hearing</b>	30	
	25	
	20	
	15	
	10	rustling leaves
	5	
	0	

## EXHIBIT 3-8 TYPICAL NOISE SOURCES AND LOUDNESS SCALE

SOURCE: BLODGETT BAYLOSIS ENVIRONMENTAL PLANNING

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? • Less than Significant Impact with Mitigation.**

The proposed project involves the construction of a residential development on a proposed 120 acres tentative tract map. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road.

The primary sources of noise in the Town of Apple Valley include freeways and roadways, railroad traffic, SCLA aircraft operations, and stationary **sources**. Future sources of noise generated on-site will include noise from vehicles traveling to and from the project and noise emanating from back-up alarms, building equipment noise (air conditioning units, and other equipment), and other noises typically associated with commercial development. The eardrum may rupture at 140 dB. In general, an increase of between 3.0 dB and 5.0 dB in the ambient noise level is considered to represent the threshold for human sensitivity. In other words, increases in ambient noise levels of 3.0 dB or less are not generally perceptible to persons with average hearing abilities.<sup>78</sup>

The Town of Apple Valley's Noise Ordinance includes policies and programs that support the Town's goal of maintaining, "Noise levels that are consistent with the Town's rural character and high quality of life." These policies include new development review as well as policies related to transportation planning to reduce noise at sensitive receptors. The Town also limits outdoor noise levels at various types of receptors though the Municipal Code in Section 9.73.050, External and Internal Noise Standards, with noise levels being restricted in single-family residential areas to 50 dBA from 7:00 AM to 10:00 PM and 40 dBA from 10:00 PM to 7:00 AM. The only short-term construction noise will be limited to the grading during the site preparation phases and the erection of the building. Nevertheless, the following mitigation will be required in order to further reduce construction noise:

- The Applicant must ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.

*Adherence to the above-mentioned mitigation will reduce potential impacts stemming from the project's construction to levels that are less than significant.*

**B. Would the project result in generation of excessive ground borne vibration or ground borne noise levels? • Less than Significant Impact.**

The construction of the proposed project will result in the generation of vibration and noise, though the vibrations and noise generated during the project's construction will not adversely impact sensitive receptors. The background vibration velocity level in residential areas is usually around 50 vibration velocity level (VdB). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximately dividing line between barely perceptible and distinctly perceptible levels for many people. Sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors causes most perceptible indoor vibration.

<sup>78</sup> Bugliarello, et. al. *The Impact of Noise Pollution*, Chapter 127, 1975.

Construction activities may result in varying degrees of ground vibration, depending on the types of equipment, the characteristics of the soil, and the age and construction of nearby buildings.

The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibrations associated with construction activities using modern construction methods and equipment rarely reach the levels that result in damage to nearby buildings though vibration related to construction activities may be discernible in areas located near the construction site. A possible exception is in older buildings where special care must be taken to avoid damage. Table 3-5 summarizes the levels of vibration and the usual effect on people and buildings. The U.S. Department of Transportation (U.S. DOT) has guidelines for vibration levels from construction related to their activities and recommends that the maximum peak-particle-velocity (PPV) levels remain below 0.05 inches per second at the nearest structures. PPV refers to the movement within the ground of molecular particles and not surface movement. Vibration levels above 0.5 inches per second have the potential to cause architectural damage to normal dwellings. The U.S. DOT also states that vibration levels above 0.015 inches per second (in/sec) are sometimes perceptible to people, and the level at which vibration becomes an irritation to people is 0.64 inches per second.

**Table 3-5**  
**Common Effects of Construction Vibration**

<b>Peak Particle Velocity (in/sec)</b>	<b>Effects on Humans</b>	<b>Effects on Buildings</b>
<0.005	Imperceptible	No effect on buildings
0.005 to 0.015	Barely perceptible	No effect on buildings
0.02 to 0.05	Level at which continuous vibrations begin to annoy occupants of nearby buildings	No effect on buildings
0.1 to 0.5	Vibrations considered unacceptable for persons exposed to continuous or long-term vibration.	Minimal potential for damage to weak or sensitive structures
0.5 to 1.0	Vibrations considered bothersome by most people, tolerable if short-term in length	Threshold at which there is a risk of architectural damage to buildings with plastered ceilings and walls. Some risk to ancient monuments and ruins.
>3.0	Vibration is unpleasant	Potential for architectural damage and possible minor structural damage

Source: U.S. Department of Transportation

Typical levels from vibration generally do not have the potential for any structural damage. Some construction activities, such as pile driving and blasting, can produce vibration levels that may have the potential to damage some vibration sensitive structures if performed within 50 to 100 feet of the structure. The reason that normal construction vibration does not result in structural damage has to do with several issues, including the frequency vibration and magnitude of construction related vibration. Unlike earthquakes, which produce vibration at very low frequencies and have a high potential for structural damage, most construction vibration is in the mid- to upper- frequency range, and therefore has a lower potential for structural damage.

The project's implementation will not require deep foundations since the underlying fill soils will be removed and the height of the proposed buildings will be limited (a single level). The new building would be constructed over a shallow foundation that will extend no more than three to four feet below ground surface. The use of shallow foundations precludes the use of pile drivers or any auger type equipment.



However, other vibration generating equipment may be used on-site during construction. As stated above, the project will require the use of excavators, loaders, bulldozers, and haul trucks.

Various types of construction equipment have been measured under a wide variety of construction activities with an average of source levels reported in terms of velocity levels as shown in Table 3-6. Although the table gives one level for each piece of equipment, it should be noted that there is a considerable variation in reported ground vibration levels from construction activities. The data in Table 3-6 does provide a reasonable estimate for a wide range of soil conditions. Based on Transit Noise and Vibration Impact Assessment, a vibration level of 102 VdB (vibration decibels, or 0.5 inches per second [in/sec]) is considered safe and would not result in any construction vibration damage.

**Table 3-6  
Vibration Source Levels for Typical Construction Equipment**

Construction Equipment		PPV @25 ft. (inches/sec.)	Vibration (VdB) @ 25 ft.
Pile Driver (impact)	Upper range	1.58	112
	Typical	0.644	104
Pile Drive (Sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam Shovel Drop		0.202	94
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Small Bulldozer		0.035	79

Source: Noise and Vibration During Construction

The project will be required to adhere to all pertinent Town noise control regulations. In addition, the cumulative traffic associated with the proposed project will not be great enough to result in a measurable or perceptible increase in traffic noise (it typically requires a doubling of traffic volumes to increase the ambient noise levels to 3.0 dBA or greater). Once in operation, the proposed project will not significantly raise ground borne noise levels. Slight increases in ground-borne noise levels could occur during the construction phase. The limited duration of construction activities and the City's construction-related noise control requirements will reduce the potential impacts. *As a result, the impacts will be less than significant.*

**C.** *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? • No Impact.*

The project site is not located within an airport land use plan and is not located within two miles of a public airport or private airport. The nearest major airport to the town is the Southern California Logistics Airport located approximately 11 miles northwest of the project site.<sup>79</sup> The Apple Valley Airport is located 7.8 miles northeast of the project site. The proposed use is considered to be a sensitive receptor. As a result, the

<sup>79</sup> Google Maps. Website accessed February 1, 2023.

proposed project will not expose people residing or working in the project area to excessive noise levels related to airport uses. *As a result, no impacts will occur.*

## MITIGATION MEASURES

The following mitigation will be required in order to further reduce construction noise:

*Noise Mitigation Measure No. 1.* The Applicant must ensure that the contractors use construction equipment that includes working mufflers and other sound suppression equipment as a means to reduce machinery noise.

### 3.14 POPULATION & HOUSING

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. 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)?				✗
B. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on population and housing if it results in any of the following:

- The proposed project would 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 proposed project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

#### ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *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)? • No Impact.*

The proposed project involves the construction of a residential development on a proposed 120 acres tentative tract map. The proposed project will consist of 99 lots that will contain single-family homes. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A). The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. Growth-inducing impacts are generally associated with the provision of urban services to an undeveloped or rural area. Growth-inducing impacts include the following:

- *New development in an area presently undeveloped and economic factors which may influence development.* The site is currently undeveloped and undisturbed. Land uses surrounding the property on the north are designated as Residential Agriculture to the south and west, and Low

Density Residential on the east.

- *Extension of roadways and other transportation facilities.* Future roadway and infrastructure connections will serve the proposed project site only.
- *Extension of infrastructure and other improvements.* The installation of any new utility lines will not lead to subsequent offsite development since these utility connections will serve the site only. At present, existing water sewer connections will need to be extended to serve the project site. The project's potential utility impacts are analyzed in Section 3.19.
- *Major off-site public projects (treatment plants, etc.).* The project's increase in demand for utility services can be accommodated without the construction or expansion of landfills, water treatment plants, or wastewater treatment plants. The project's potential utility impacts are further analyzed in Section 3.19.
- *The removal of housing requiring replacement housing elsewhere.* The site will add 99 single-family housing units on a vacant parcel. As a result, no replacement housing will be required.
- *Additional population growth leading to increased demand for goods and services.* As indicated previously, the project is a proposal to construct 99 single-family detached residential units. These single-family units would be owner-occupied. In addition, the proposed project is estimated to add 402 new residents assuming an average household size of 4.06 persons per unit. The average household size figure was derived from the most recent Census data.<sup>80</sup>
- *Short-term growth-inducing impacts related to the project's construction.* The project will result in temporary employment during the construction phase.

The proposed project will utilize existing roadways and infrastructure. The newly established roads and existing utility lines will serve the project site only and will not extend into undeveloped areas. The proposed project will not result in any unplanned growth. *Therefore, no impact will result.*

**B. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? • No Impact.**

The project site is vacant and disturbed with dirt roads going through the project. This property has a General Plan and zoning designation of Residential Agriculture with the surrounding parcels having Low Density Residential, Estate Residential, Residential Agriculture, Mixed Use, and Multi-Family Residential (R-M). No housing units will be displaced as a result of the proposed project's implementation. *Therefore, no impact will result.*

## MITIGATION MEASURES

The analysis of potential population and housing impacts indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

<sup>80</sup> The Natelson Company. Employment Density Study, Summary Report,  
SECTION 3.14 • POPULATION & HOUSING

### 3.15 PUBLIC SERVICES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:			✗	
i). Would the project result in substantial adverse physical impacts associated with Fire protection?			✗	
ii). Would the project result in substantial adverse physical impacts associated with Police protection?			✗	
iii). Would the project result in substantial adverse physical impacts associated with Schools?			✗	
iv). Would the project result in substantial adverse physical impacts associated with Parks?			✗	
v). Would the project result in substantial adverse physical impacts associated with Other public facilities?			✗	

### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on public services if it results in any of the following:

- The proposed project would 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 or other public facilities.

### ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*

The proposed project involves construction of a residential development on a proposed 120 acres tentative tract map. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The proposed project will consist of 99 lots that will contain single-family homes. In addition, the proposed development will include



improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>81</sup>

**i). *Would the project have fire protection? Less than Significant Impact.***

The Town of Apple Valley receives fire protection services from the Apple Valley Fire Protection District (AVFPD). AVFPD is an independent District that serves the Town and unincorporated areas of San Bernardino County. The District's approximately 206 square mile service area extends easterly from the Mojave River as far as the dry lakes toward Lucerne Valley. The following stations are found in the area:

- *Station No. 331* at 22400 Headquarters Drive has 12 staff, and is equipped with a Type-1 engine, a Type-2 water tender, and a medium-level rescue vehicle.
- *Station No. 332* at 18857 Highway 18 has 9 staff. Equipment includes a Type-1 engine and a Type-3 engine. • *Station No. 333* at 20604 Highway 18 is staffed with private ambulance company personnel.
- *Station 334* at 12143 Kiowa Road has 9 staff, a Type-1 engine, and a Type-3 engine. • *Station No. 335* at 21860 Tussing Ranch Road is staffed by paid-call staff only. This means that staff members are alerted via pager to calls within the response area. The station is equipped with a Type-1 engine and a Type-3 water tender.
- *Station No. 336* at 19235 Yucca Loma Road has 6 career and 10 paid-call staff, and is equipped with a rescue squad vehicle, a Type-1 engine, a Type-4 engine, an Incident Command bus, an Incident Support unit and a Type-2 truck.
- *Station No. 337* at 19305 Jess Ranch Parkway was added in October 2007. Staffing has been expanded, as of April 2008, from 2 to 4 staff members. The station is equipped with a Type-4 Medic Patrol, a Hazmat Trailer, and a Reserve Squad.

Fire station 334 is the closest fire department to the project site, located 0.86 miles to the northeast of the project site. The proposed project will be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks, emergency access, and fire flow (or the flow rate of water that is available for extinguishing fires). The proposed project would only place an incremental demand on fire services since the project will be constructed with strict adherence to all pertinent building and fire codes. Furthermore, the project will be reviewed by AVFPD Fire officials to ensure adequate fire service and safety as a result of project implementation. *As a result, the impacts will be less than significant.*

---

<sup>81</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

**ii). Would the project have police protection? Less than Significant Impact.**

Law enforcement services within the City are provided by the San Bernardino County Sheriff's Department which serves the community from one police station located 3.88 miles to the north of the project site. The proposed project will also be required to comply with the County and City security requirements. The proposed project would only place an incremental demand on police protection services since the project would be secured at all times. *As a result, the impacts will be less than significant.*

**iii). Would the project be near schools? Less than Significant Impact.**

The nearest school to the project site is Sandia Academy, located 2.13 miles to the east. Due to the nature of the proposed project, no direct enrollment impacts regarding school services will occur. The project site is residential in nature and will not result in any direct school enrollment impacts (as opposed to residential uses). Pursuant to SB-50, payment of fees to the applicable school district is considered full mitigation for project-related impacts. The proposed project's school enrollment impacts will be off-set by the school fees that will be paid by the developer. *As a result, the impacts will be less than significant.*

**iv). Would the project be near parks? Less than Significant Impact.**

The nearest park to the project site is Mendel Park located 2.23 miles to the southeast. The proposed project will not result in any local increase in residential development (directly or indirectly) that could potentially impact the local recreational facilities. The project will, however, introduce two new parks within the project site. The project Applicant will be required to pay in-lieu park fees required by the Town. *As a result, the impacts will be less than significant.*

**v). Would the project have other public facilities? Less than Significant Impact.**

The proposed project will not create direct local population growth that could potentially create demand for other governmental services. *As a result, the impacts will be less than significant.*

## MITIGATION MEASURES

The analysis of public service impacts indicated that no significant adverse impacts are anticipated, and no mitigation is required with the implementation of the proposed project.

### 3.16 RECREATION

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. 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?				✗
B. 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?				✗

### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on recreation if it results in any of the following:

- The proposed project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- The proposed project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

### ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *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?* • **No Impact.**

The proposed project involves the construction of 99 single family residential units within a 120-acre site. The proposed project site will consist of 99 lots that will contain single-family homes. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>82</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. No parks are located adjacent to the site. However, two parks will be constructed within the project site. The nearest public park is Mendel Park located approximately 2.13 miles southeast of the project site. The proposed project would not result in any improvements that would potentially significantly physically alter any public park facilities and services. As a result, no impacts are anticipated.

<sup>82</sup>Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date).

**B.** *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? • No Impact.*

As previously indicated, the implementation of the proposed project would not affect any existing parks and recreational facilities in the Town. No such facilities are located adjacent to the project site and, as a result, no impacts will occur.

### **MITIGATION MEASURES**

The analysis of potential impacts related to parks and recreation indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

### 3.17 TRANSPORTATION

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			✗	
B. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)?			✗	
C. 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)?		✗		
D. Would the project result in inadequate emergency access?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on transportation and circulation if it results in any of the following:

- The proposed project would conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- The proposed project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- The proposed project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- The proposed project would result in inadequate emergency access.

#### ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? • Less than Significant Impact.*

The proposed project involves construction of a 99-unit single family residential development on a 120-acre site. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>83</sup> The proposed project's

<sup>83</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453). Town of Apple Valley. Sheet 1 of 1.* (No Date).



implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development. The project site is currently vacant and undeveloped. The following roadways provide local and regional access to the project within the study area included in a traffic study created by David Evans and Associates Inc.:

- *Deep Creek Road* is identified as a Secondary Road on the Town of Apple Valley Street System General Plan. This right of way is associated with the Town’s Master Plan of Highways in the Arterial Roads category as a Secondary Road (88-foot RW and 64-foot curb separation).<sup>84</sup>
- *Del Oro Road* is identified as a Secondary Road on the Town of Apple Valley Street System General Plan. This right of way is associated with the Town’s Master Plan of Highways in the Arterial Roads category as a Secondary Road (88-foot RW and 64-foot curb separation).<sup>85</sup>

The study area for determining level of service impacts in construction includes three existing intersections and two future intersections:

1. Bear Valley Road at Deep Creek Road
2. Del Oro Road at Deep Creek Road
3. Del Oro Road at Apple Valley Road
4. Deep Creek Road at Project Driveway “A” (Future Intersection)
5. Del Oro Road at Project Driveway “B” (Future Intersection)

The trip generation rates for the site were obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Opening year for Phase I of the project is 2024. The Land use category for estimating trips include Single-Family Detached Housing (ITE 210). Table 3-7 summarizes the estimated trip generation for the project on an average weekday, and during the AM (7-9 AM) and PM (4-6 PM) peak hours. As presented in Table 3-8, the proposed project is estimated to generate 934 primary daily trips, 70 primary AM peak hour, and 94 primary PM peak hour trips. <sup>86</sup>

**Table 3-7  
Trip Generation**

Land Use		Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1	Single-Family Detached Housing (ITE 210)								
	Rates (Trips Per Dwelling Unit)	99	9.43	0.18	0.56	0.7	0.62	0.35	0.94
	Trips		934	18	52	70	59	35	94

To address the impacts of the estimated project traffic, the trips were distributed by direction towards major commute routes and concentrations of residential and commercial/employment centers. Once the

<sup>84</sup> David Evans and Associates Inc. Proposed Deep Creek Road & Del Oro Road Residential Development. Town of Apple Valley. February 3, 2023.

<sup>85</sup> Ibid

<sup>86</sup> ibid

distribution pattern was established, project trips were assigned to the streets that provide the most direct route to destinations.

A comparison of the level of service between existing and existing plus project conditions identifies project-specific intersection level of service deficiencies (requiring improvements to bring peak hour level of service to Town standards). A comparison of the effect of project traffic only on existing conditions without transportation system improvements or traffic from other development identifies impacts that are solely the responsibility of the project to mitigate. This type of impact is considered “project-specific”. Table 3-8 compares the weekday AM and PM peak hour existing and existing plus project level of services at the study intersections. The existing plus project conditions scenario represents transportation conditions as if the project were built and occupied today.<sup>87</sup>

**Table 3-8**  
**Existing & Existing Plus Project Intersection Levels of Service**

Intersection	Inter. Contr.	Existing Condition				Existing + Project Condition			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd @ Deep Creek Rd.	TS	7.1	A	7.5	A	7.4	A	7.8	A
2. Del Oro Rd. @ Deep Creek Rd.	SSSC	11.8	B	10.8	B	12.3	B	11.4	B
3. Del Oro Rd. @ App-le Valley Rd.	AWSC	8.1	A	8.6	A	8.1	A	8.7	A
4. Deep Creek Rd. @ Project Driveway A	SSSC	--	--	--	--	9.6	A	9.3	A
5. Del Oro Rd. @ Project Driveway B	SSSC	--	--	--	--	8.4	A	8.6	A

Notes: TS=traffic signal; SSSC = side street stop control; AWSC=all way stop control.

Source: David Evans and Associates, Inc.

A comparison of level of service between background and background plus project conditions (opening year scenario) represents the project’s opening year of 2025 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually. This analysis identifies deficiencies caused by a combination of growth in traffic and the proposed project. This type of impact is considered “cumulative”. A cumulative impact is typically mitigated by developments sharing in the cost of the mitigation measure. The study intersections operate within the Town’s level of service standard LOS D, and the project does not contribute to any deficiencies. Table 3-9 compares the background and background plus project conditions weekday peak hour level of service at the study intersections. In the year 2025 scenario, the study intersections operate within the Town’s level of service standard LOS D, and the project does not contribute to any deficiencies.<sup>88</sup>

<sup>87</sup> David Evans and Associates Inc. Proposed Deep Creek Road & Del Oro Road Residential Development. Town of Apple Valley. February 3, 2023.

<sup>88</sup> Ibid.

**Table 3-9  
Background and Background Plus Project Intersection Levels of Service**

Intersection	Inter. Contr.	Background Condition				Background + Project Condition			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd @ Deep Creek Rd.	TS	7.6	A	8.1	A	7.8	A	8.4	A
2. Del Oro Rd. @ Deep Creek Rd.	SSSC	12.2	B	11.0	B	12.7	B	11.7	B
3. Del Oro Rd. @ App-le Valley Rd.	AWSC	8.1	A	8.8	A	8.2	A	8.9	A
4. Deep Creek Rd. @ Project Driveway A	SSSC	--	--	--	--	9.7	A	9.4	A
5. Del Oro Rd. @ Project Driveway B	SSSC	--	--	--	--	8.4	A	8.6	A

Notes: TS=traffic signal; SSSC = side street stop control; AWSC=all way stop control.

Source: David Evans and Associates, Inc.

The comparison of future year 2035 and future plus project conditions represent the forecast year of 2035 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually. If a deficiency is identified in this long-term scenario, it is considered a “cumulative” deficiency. A cumulative deficiency is typically mitigated by developments sharing in the cost of the mitigation measure. The study intersections operate within the Town’s level of service standard LOS D, and the project does not contribute to any deficiencies. Table 3-10 compares the future and future plus project conditions weekday peak hour level of service at the study intersections. In the year 2035 scenario, the study intersections operate within the Town’s level of service standard LOS D, and the project does not contribute to any deficiencies.

**Table 3-10  
Future and Future Plus Project Intersection Levels of Service**

Intersection	Inter. Contr.	Future Condition				Future +Project Condition			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd @ Deep Creek Rd.	TS	11.7	B	15.5	B	12.6	B	16.0	B
2. Del Oro Rd. @ Deep Creek Rd.	SSSC	14.2	B	12.4	B	14.9	B	13.3	B
3. Del Oro Rd. @ App-le Valley Rd.	AWSC	8.7	A	9.8	A	8.9	A	9.9	A
4. Deep Creek Rd. @ Project Driveway A	SSSC	--	--	--	--	10.2	B	9.9	A
5. Del Oro Rd. @ Project Driveway B	SSSC	--	--	--	--	8.4	A	8.6	A

Notes: TS=traffic signal; SSSC = side street stop control; AWSC=all way stop control.

Source: David Evans and Associates, Inc.

The analysis did not identify any level of service deficiencies under any of the three analysis scenarios and, therefore, there are no project-specific (or cumulative) measures required to improve the level of service. *As a result, the impacts would be less than significant.*

**B. *Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)? • Less than Significant Impact.***

The VMT analysis was prepared in accordance with the Town's adopted Resolution No. 2021-08 (Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)) which states that a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
2. The cumulative (2040) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population.

In addition to project-generated VMT, the Town adopted significance thresholds for a project's effect on VMT in Apple Valley. The resolution states that a project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

3. The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or
4. The cumulative link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition.<sup>89</sup>

The SBTAM model used estimate project-generated VMT for both baseline (2016) and horizon year (2040) scenarios. The SBTAM socioeconomic database for each scenario were updated with the project land use to calculate project VMT. The databases were also used to obtain the town's population and employment to estimate service population. The SBTAM model was used to estimate the VMT on all roadways within the town's limits for the baseline and 2040 scenarios with and without the project. Comparing the resulting town-wide VMT with the project against the town-wide VMT without the project would indicate a significant project impact if the "with" project VMT / Service population was higher than the "without" project the metric. Table 9-2 in the Traffic Study shows that the VMT/Service population metric under the "with project" conditions compared to the metric under the "without project" conditions in both the 2016 and 2040 scenarios does not increase and does not satisfy the town's significance threshold described above.

The VMT analysis conducted to identify potentially significant project-generated VMT impacts under CEQA concludes that the proposed project generates a VMT / Service population less than the VMT / Service population representing buildout of Apple Valley's general plan and, therefore, does not cause a significant impact based on the town's adopted significance thresholds for project-generated VMT. An analysis conducted to identify potentially significant impacts of the project's "effects on town-wide VMT" under CEQA concludes that the VMT / Service population metric for the baseline and horizon year scenarios "with the project" do not increase the metric over the "without project" scenarios. Therefore, the proposed project does not cause a significant impact based on the town's adopted significance thresholds for the project's

---

<sup>89</sup> David Evans and Associates Inc. Proposed Deep Creek Road & Del Oro Road Residential Development. Town of Apple Valley. February 3, 2023.

effect on town-wide VMT. As a result, the impacts are less than significant.

**C. 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)? • Less than Significant Impact with Mitigation.**

Access to the project site would be provided by an improved road that will be located along the site's western side along Deep Creek Road and on the project's south side along Del Oro Road. Improvements to the roadways will include the widening of the 88-foot right of way Deep Creek Road to the 44-foot half-width of a secondary road section including the proposed driveways accessing the project from Deep Creek Road and constructing a 44-foot half-width of a secondary road section including the project's driveway "B".<sup>90</sup> The proposed project will not expose future drivers to dangerous intersections or sharp curves and the proposed project will not introduce incompatible equipment or vehicles to the adjacent roads. As a result, the potential impacts will be less than significant.

**D. Would the project result in inadequate emergency access? • No Impact.**

The proposed project would not affect emergency access to any adjacent parcels. At no time during construction will adjacent streets be completely closed to traffic. All construction staging must occur on-site. As a result, no impacts are associated with the proposed project's implementation.

## MITIGATION MEASURES

The following mitigation measures will be required to address potential Transportation impacts:

*Transportation Mitigation Measure 1.* Construct and improve the project's frontage with Deep Creek Road between the project's northern property line and Del Oro Road.

- Deep Creek Road is designated as a secondary road with an 88-foot right of way. The project will be required to dedicate and widen Deep Creek Road to the 44-foot half-width of a secondary road section including the proposed driveways accessing the project from Deep Creek Road. Until the other half of Deep Creek Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.

*Transportation Mitigation Measure 2.* Construct Del Oro Road from Deep Creek Road to the Eastern Property Line.

- The project will be required to dedicate land and construct the 44-foot half-width of a secondary road section including the Project's Driveway "B". Until the southern half of Del Oro Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.

---

<sup>90</sup> David Evans and Associates Inc. Proposed Deep Creek Road & Del Oro Road Residential Development. Town of Apple Valley. February 3, 2023.



- The project should also construct a minimum two-way two-lane (one lane in each direction) roadway between its eastern property line and Deep Creek Road to fill the gap created by the non-project owned property in the southeast corner of Deep Creek Road and Del Oro Road.

### 3.18 TRIBAL CULTURAL RESOURCES

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
<b>A.</b> 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:		✗		
<b>i)</b> Would the project have 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>ii).</b> Would the project have 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 Resource 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.		✗		

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on tribal cultural resources if it results in any of the following:

- The proposed project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
- The proposed project would 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 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. *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 • Less than Significant Impact with Mitigation.***

The proposed project involves construction of a 99 single-family unit residential development on a 120-acre site. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>91</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

A Tribal Resource is defined in Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

Adherence to the standard condition presented in Subsection B under Cultural Resources will minimize potential impacts to levels that are less than significant.

**i. *Would the 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), • No Impact***

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as

<sup>91</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

defined in subdivision (k) of Section 5020.1. The project site is not listed in the Register. *As a result, no impacts would occur.*

**ii.** *Would the project have 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 Resource 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? • Less than Significant Impact with Mitigation.*

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

The following mitigation measures will be required to address potential cultural resources impacts:

- An archaeological monitor shall be present from the outset to observe ground disturbing activities in the Project. The monitor shall work under the direct supervision of a qualified archaeologist (minimum of a Bachelor of Science /B.A. in geology, or related discipline with an emphasis in cultural resources/archaeology and demonstrated experience and competence in archaeological research, fieldwork, reporting, and curation). The monitor shall be a trained archaeological monitor with experience and knowledge in the identification and treatment of cultural resources.<sup>92</sup>
  - The qualified archaeologist shall be on-site at the pre-construction meeting to discuss monitoring protocols.
  - Archaeological monitoring shall start at full-time. If no cultural resources are discovered after half of the ground disturbance has occurred, monitoring can be reduced to part-time or spot-checking.
  - The monitor shall be empowered to temporarily halt or redirect grading efforts if cultural resources are discovered.
  - In the event of an archaeological discovery the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area.
- If the project description changes additional studies may be warranted. If archaeological resources are discovered during construction, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the remains pursuant to State Public Resources Code Section 5097.98. The County Coroner must be notified immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48

<sup>92</sup> <sup>92</sup> Duke CRM. Cultural and Paleontological Resources Assessment, TTM 20453 Project, Town of Apple Valley, County of San Bernardino, California. September 2022.

hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.<sup>93</sup>

*As a result, there will be a less than significant impact with mitigation.*

## MITIGATION MEASURES

The following mitigation measures are required as a means to reduce potential tribal cultural resources impacts to levels that are less than significant:

*Tribal Cultural Resources Mitigation Measure No. 1.* An archaeological monitor shall be present from the outset to observe ground disturbing activities in the Project. The monitor shall work under the direct supervision of a qualified archaeologist (minimum of a Bachelor of Science /B.A. in geology, or related discipline with an emphasis in cultural resources/archaeology and demonstrated experience and competence in archaeological research, fieldwork, reporting, and curation). The monitor shall be a trained archaeological monitor with experience and knowledge in the identification and treatment of cultural resources.<sup>94</sup>

- The qualified archaeologist shall be on-site at the pre-construction meeting to discuss monitoring protocols.
- Archaeological monitoring shall start at full-time. If no cultural resources are discovered after half of the ground disturbance has occurred, monitoring can be reduced to part-time or spot-checking.
- The monitor shall be empowered to temporarily halt or redirect grading efforts if cultural resources are discovered.
- In the event of an archaeological discovery the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area.

*Tribal Cultural Resources Mitigation Measure No. 2.* If the Project description changes additional studies may be warranted. If archaeological resources are discovered during construction, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the remains pursuant to State Public Resources Code Section 5097.98. The County Coroner must be notified immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.<sup>95</sup>

---

<sup>93</sup> Duke CRM. *Cultural and Paleontological Resources Assessment, TTM 20453 Project, Town of Apple Valley, County of San Bernardino, California*. September 2022.

<sup>94</sup> Ibid.

<sup>95</sup> Ibid.



### 3.19 UTILITIES AND SERVICE SYSTEMS

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✗	
B. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			✗	
C. Would the project result in a determination by the waste water 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?			✗	
D. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✗	
E. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on utilities if it results in any of the following:

- The proposed project would 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.
- The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- The proposed project would result in a determination by the wastewater treatment provider which serves or may serve the proposed project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- The proposed project would 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.
- The proposed project would negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals.

- The proposed project would comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A.** *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? • Less than Significant Impact.*

The proposed project involves construction of a 99-unit single-family residential development on a 120-acre site. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>96</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

There are no existing water or wastewater treatment plants, electric power plants, telecommunications facilities, natural gas facilities, or stormwater drainage infrastructure located on-site. The project site is currently undeveloped and has existing sewer and water connections adjacent to the project site. The proposed project's connection can be adequately handled by the existing infrastructure. An easement for Southern California Edison Transmission Line will be located on the north along the Gupan Road frontage. *As a result, the impacts will be less than significant.*

**B.** *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? • Less than Significant Impact.*

The project site and the surrounding area is under the jurisdiction of the Mojave Water Agency (MWA). The MWA has four-(4) contracts and is entitled to 85,800 acre-feet cumulative per year of supplemental water from the California Water Project (CWP or California Aqueduct) along with another 4,000 acre-feet in January 2020. The original 50,800 acre-feet entitlement of the CWP has been available for 50+ years and the MWA has purchased additional water transfers (first of several from Dudley Ranch) on March 26, 1996, which increased the entitlement by 25,000 acre-feet yearly. Only 7,257 acre-feet per year has been committed to the Morongo Basin, leaving 82,543 acre-feet available to provide "Supplement/Make Up Water" under MWA's jurisdiction in 2020.

The anticipated water demand for the proposed project is summarized in Table 3-11. The applicant will need a letter from Liberty Utilities in order to ensure water can be served to the site. The proposed project will be required to implement all pertinent water conservation measures. *As a result, the impacts will be less than significant.*

<sup>96</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).

**Table 3-11  
Projected Water Consumption**

Project Element	Consumption Rate	Project Consumption
Single Family Residential (99 Units)	390/day/unit	38,610
Total		38,610 gals./day

Source: Blodgett Baylosis Environmental Planning

**C.** *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? • Less than Significant Impact.*

The Town of Apple Valley owns, operates and maintains the local wastewater collection system. Wastewater facilities needed to serve the Town are identified in the Town's Sewer Master Plan (1993). This document is slated for an update within the next few years to ensure the system's adequacy to meet future needs of the Town's build out. Currently the Town has force main lines and gravity sewer lines of from 6 inches to 24 inches in diameter that connect to regional intercept lines that convey wastewater to a wastewater treatment plant operated by the Victor Valley Wastewater Treatment Authority (VWVRA) in Victorville. Currently the Town has force main lines and gravity sewer lines of from 6 inches to 24 inches in diameter that connect to regional intercept lines that convey wastewater to a wastewater treatment plant operated by the Victor Valley Wastewater Treatment Authority (VWVRA) in Victorville.

Table 3-12 indicates the proposed projects anticipated effluent generation rate. With the implementation of the Town's Capital Improvement Program & Sewer Master Plan System. The proposed project will pay associated development impact fees to the Town to fund the ongoing maintenance and expansion/construction of treatment facilities. The local infrastructure should have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments in conjunction with associated fees and existing plans, as applicable and as needed. *As a result, the impacts will be less than significant.*

**Table 3-12  
Projected Effluent Generation**

Project Element	Generation Rate	Project Generation
Single Family Residential (99 Units)	260 gals./day/unit	25,740 gals./day
Total		25,740 gals./day

Source: Blodgett Baylosis Environmental Planning

**D.** *Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? • Less than Significant Impact.*

The Town of Apple Valley contracts with Burrtec Waste Industries of Fontana, California for the collection and disposal of solid waste. Burrtec provides weekly curbside pick-up of recyclable materials for residential,

commercial and industrial development. Solid waste collected in the planning area by Burrtec is hauled to the Victorville landfill, approximately 12 miles to the northwest and is a part of the San Bernardino County landfill system. The operating permit for the Victorville landfill allows for a maximum of 3,000 tons a day. Currently, it receives an average of 900 tons per day. Table 3-13 indicates the proposed projects anticipated solid waste generation rate. The Town of Apple Valley utilizes the Town of Apple Valley Landfill for solid waste disposal. This landfill is operated by the Solid Waste Management Division of the San Bernardino County Public Works Department in accordance with a Waste Disposal Agreement between the Town and the County. The Town of Apple Valley landfill currently operates on 67-acres of a total 491-acre property with a capacity of 1,180 tons per day. The operating permit for the Victorville landfill allows for a maximum of 3,000 tons a day. Currently, it receives an average of 900 tons per day. *The impacts will be less than significant.*

**Table 3-13**  
**Projected Solid Waste Generation**

Project Element	Generation Rate	Project Generation
Single Family Residential (99 Units)	12.23 lbs./day/Unit	1,210.8 lbs./day
Total		1,210.8 lbs./day

Source: Blodgett Baylosis Environmental Planning

**E. Would the project comply with Federal, State, and local management and reduction statutes and regulations related to solid waste? • No Impact.**

The proposed project, like all other development in Town of Apple Valley and San Bernardino County, will be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, no impacts related to State and local statutes governing solid waste are anticipated.

## **MITIGATION MEASURES**

The analysis of utilities impacts indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation is required.

### 3.20 WILDFIRE

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?				✗
B. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✗
C. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✗
D. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✗

#### THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

According to Appendix G of the CEQA Guidelines, a project may be deemed to have a significant adverse impact on wildfire risk and hazards if it results in any of the following:

- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, substantially impair an adopted emergency response plan or emergency evacuation plan.
- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- The proposed project would, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

## ANALYSIS OF ENVIRONMENTAL IMPACTS

**A. *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? • No Impact.***

The proposed project involves construction of a residential development on a proposed 120 acres tentative tract map. The 120-acre development site is bounded on the north by Gupan Road, on the south by Del Oro Road, on the east by Savage Lane, and on the west by Deep Creek Road. The proposed project will consist of 99 lots that will contain single-family homes. In addition, the proposed development will include improved streets, a retention basin/park, and a second community park consisting of 2.52 acres. The current tentative tract map will be adjusted to bring the proposed horse trail inside the property lines. The individual residential lots will range in size from 0.75 to 1.22 acres. The Assessor Parcel Number (APN) is 0434-042-32. The proposed site is currently vacant with a zoning designation of Residential Agriculture (R-A).<sup>97</sup> The proposed project's implementation would require a General Plan Amendment (GPA) and a Zone Change (ZC) though the permitted use would continue to be single-family residential development.

Surface streets will be improved by pavement at construction and will serve the project site and adjacent area. Furthermore, the proposed project would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. At no time during construction will any of the adjacent streets be completely closed to traffic. All construction staging must occur on-site. *As a result, no impacts will occur.*

**B. *Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? • No Impact.***

The project site is not located within any fire hazard severity zones. The proposed project may be exposed to particulate emissions generated by wildland fires in the mountains (the site is located approximately 20 miles northeast and northwest of the San Gabriel and San Bernardino Mountains). However, the potential impacts would not be exclusive to the project site since criteria pollutant emissions from wildland fires may affect the entire Town as well as the surrounding cities and unincorporated county areas. *As a result, no impacts will occur.*

**C. *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? • No Impact.***

The project site is not located in an area that is classified as a moderate fire risk severity within a Local Responsibility Area (LRA), and therefore will not require the installation of specialized infrastructure such as fire roads, fuel breaks, or emergency water sources. *As a result, no impacts will occur.*

**D. *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? • No Impact.***

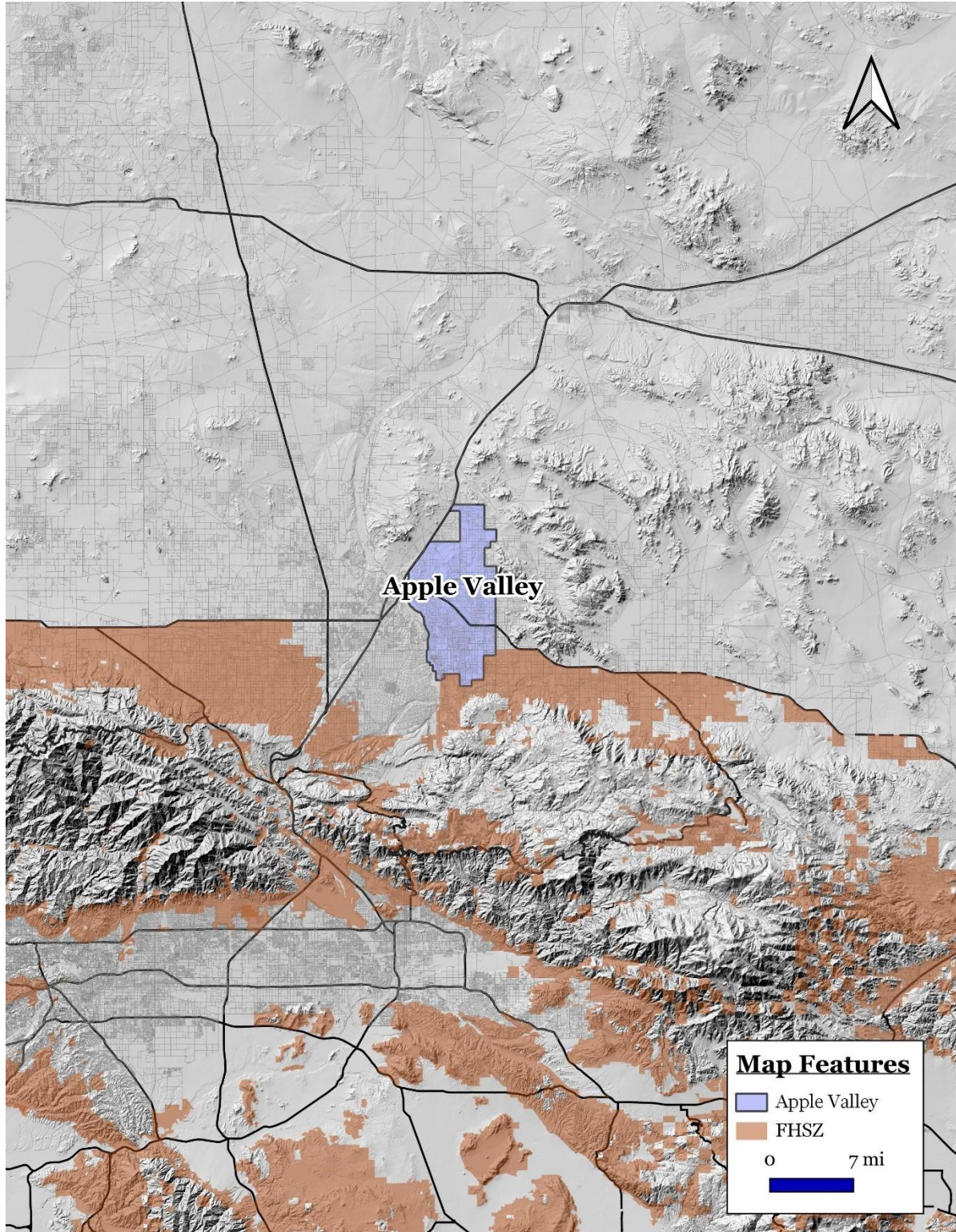
<sup>97</sup> Merrell Johnson Engineering, Inc. *Preliminary Site Plan. TTM 20453. Town of Apple Valley. Sheet 1 of 1.* (No Date).



There is no risk from wildfire within the project site or the surrounding area given the project site's distance from any area that may be subject to a wildfire event. The proposed project site is not located within an area classified as very high fire hazard severity zones and is not within a flood zone. Therefore, the project will not expose future residents to flooding or landslides facilitated by runoff flowing down barren and charred slopes. *As a result, no impacts will occur.*

### **MITIGATION MEASURES**

The analysis of wildfire impacts indicated that less than significant impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation is required.



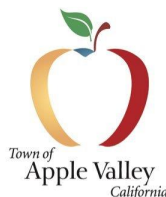
**EXHIBIT 3-8**  
**FHSZ MAP**  
SOURCE: CALFIRE

### 3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue Areas Examined	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
A. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				×
B. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				×
C. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				×

The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this environmental assessment:

- A. The proposed project *will not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. As indicated in Section 3.1 through 3.20, the proposed project will not result in any significant unmitigable environmental impacts.
- B. The proposed project *will not* have impacts that are individually limited, but cumulatively considerable. The environmental impacts will not lead to a cumulatively significant impact on any of the issues analyzed herein.
- C. The proposed project *will not* have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. As indicated in Section 3.1 through 3.20, the proposed project will not result in any significant unmitigable environmental impacts.



**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.**



## SECTION 4. CONCLUSIONS

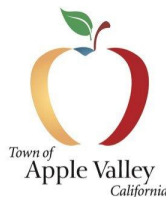
### 4.1 FINDINGS

The Initial Study determined that the proposed project is not expected to have significant adverse environmental impacts. The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this Initial Study:

- The proposed project *will not* have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory.
- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable.
- The proposed project *will not* have environmental effects which will cause substantially adverse effects on human beings, either directly or indirectly.

### 4.2 MITIGATION MONITORING

In addition, pursuant to Section 21081(a) of the Public Resources Code, findings must be adopted by the decision-maker coincidental to the approval of a Mitigation Negative Declaration. These findings shall be incorporated as part of the decision-maker's findings of fact, in response to AB-3180 and in compliance with the requirements of the Public Resources Code. In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the Town of Apple Valley can make the following additional findings: a mitigation monitoring and reporting program will not be required.



**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**



## SECTION 5. REFERENCES

### 5.1 PREPARERS

Blodgett Baylosis Environmental Planning  
2211 S Hacienda Boulevard, Suite 107  
Hacienda Heights, CA 91745  
(626) 336-0033

Karla Nayakarathne, Project Manager  
Marc Blodgett, Project Principal  
Genesis Loyda, Administrator  
Alice Ye, Business Developer

### 5.2 REFERENCES

The references that were consulted have been identified using footnotes.

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**

## **APPENDICES**

**APPENDIX A-AIR QUALITY REPORT**

**APPENDIX B- BIOLOGICAL RESOURCES STUDY**

**APPENDIX C- CULTURAL RESOURCES STUDY**

**APPENDIX D- UTILITIES & ENERGY**

**APPENDIX F- TRAFFIC STUDY**

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**

## **APPENDIX A – AIR QUALITY REPORT**



**DATE:** December 6, 2022  
**TO:** Mark Maida,  
**FROM:** Haseeb Qureshi  
Ali Dadabhoy  
**JOB NO:** 14980-02 AQ & GHG Assessment

### **APPLE VALLEY TTM 20453 AIR QUALITY, GREENHOUSE & GAS ASSESSMENT**

Mark Maida,

Urban Crossroads, Inc. is pleased to provide the following Air Quality, Greenhouse & Gas Assessment for the Apple Valley TTM 20453 (**Project**), which is located on the northeast corner of Deep Creek Rd and Del Oro Rd in the Town of Apple Valley.

### **PROJECT OVERVIEW**

The Project is proposed to consist of up to 99 residential lots on approximately 120-acres (see Exhibit 1). The proposed Project is anticipated to have an opening year of 2025.

### **SUMMARY OF FINDINGS**

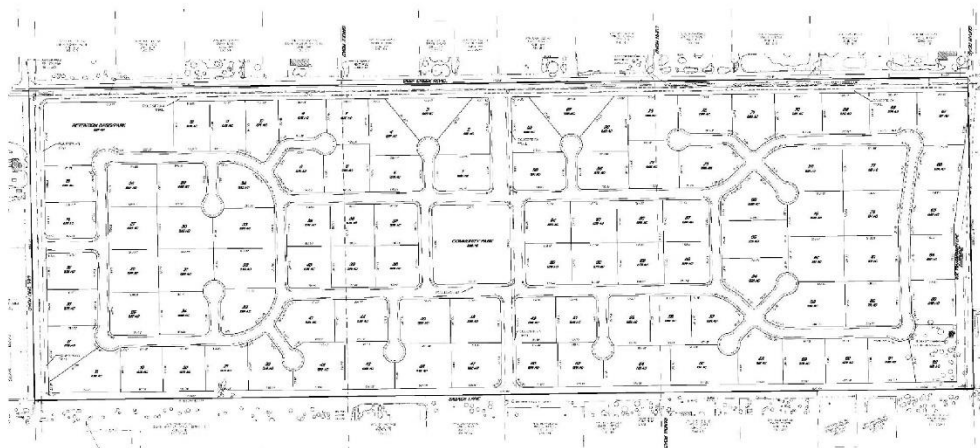
Results of the assessment indicate that the Project would result in a less than significant impact with respect to air quality and greenhouse gases and no mitigation is required.

*14980-02 AQ & GHG Assessment*



Mark Maida  
December 6, 2022  
Page 2 of 20

EXHIBIT 1: PROJECT'S TENTATIVE TRACT MAP



## PROJECT AIR QUALITY IMPACTS

### AIR QUALITY SETTING

#### MOJAVE DESERT AIR BASIN (MDAB)

The Project site is located in the portion of the County of San Bernardino, California, that is part of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the MDAQMD. The air quality assessment for the proposed Project includes estimating emissions associated with short-term construction and long-term operation of the proposed Project. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its *California Environmental Quality Act and Federal Conformity Guidelines* (August 2011), were adhered to in the assessment of air quality impacts for the proposed Project.

#### *Regional Climate*

Air quality in the Project area is not only affected by various emissions sources (mobile, industry, etc.) but is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 ft above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation is approximately 10,000 ft), whose passes form the main channels for these air masses. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriels by the Cajon Pass (4,200 ft). A lesser pass lies between the San Bernardino Mountains and the Little San Bernardino Mountains in the Morongo Valley. The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley), whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate that at least three months have maximum average temperatures over 100.4° F.

Snow is common above 5,000 ft in elevation, resulting in moderate snowpack and limited spring runoff. Below 5,000 ft, any precipitation normally occurs as rainfall. Pacific storm fronts normally move into the area from the west, driven by prevailing winds from the west and southwest. During late summer, moist high-pressure systems from the Pacific collide with rising heated air from desert areas, resulting in brief, high-intensity thunderstorms that can cause high winds and localized flash flooding.

#### **Criteria Pollutants**

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O<sub>3</sub>) (precursor emissions include NO<sub>x</sub> and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The San Bernardino County portion of the MDAB is designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub>, and PM<sub>10</sub>.

### **REGULATORY BACKGROUND**

#### **FEDERAL REGULATIONS**

The EPA is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead (Pb) (5). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (6). The CAA also mandates that each state submit and implement state implementation plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (7) (8). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, CO, PM<sub>2.5</sub>, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O<sub>3</sub> and to adopt a NAAQS for PM<sub>2.5</sub>.



Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO<sub>x</sub>. NO<sub>x</sub> is a collective term that includes all forms of NO<sub>x</sub> which are emitted as byproducts of the combustion process.

## **CALIFORNIA REGULATIONS**

### **CARB**

The CARB, which became part of the California EPA (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California ambient air quality standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO<sub>4</sub>, visibility, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride (C<sub>2</sub>H<sub>3</sub>Cl). However, at this time, H<sub>2</sub>S and C<sub>2</sub>H<sub>3</sub>Cl are not measured at any monitoring stations in the MDAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (1) (2).

Local air quality management districts, such as the MDAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROG<sub>s</sub>, NO<sub>x</sub>, CO and PM<sub>10</sub>. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

## AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the MDAB. In regard to the NAAQS, the Project region within the MDAB is in nonattainment for ozone (8-hour) and PM<sub>10</sub>. For the CAAQS, the Project region within the MDAB is in nonattainment for ozone (1-hour and 8-hour), PM<sub>10</sub>, and PM<sub>2.5</sub>. In response, the MDAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (3). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

## APPLICABLE REGULATORY REQUIREMENTS

MDAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings) (4) (5).

### MDAQMD Rule 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. This rule is intended to reduce PM<sub>10</sub> emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM<sub>10</sub> suppression techniques are summarized below.

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

### MDAQMD Rule 1113

This rule serves to limit the volatile organic compound (VOC) content of architectural coatings used on projects in the MDAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the MDAQMD must comply with the current VOC standards set in this rule.

## METHODOLOGY

In May 2022, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod

Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (6). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and greenhouse gas emissions.

#### Standards of Significance

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the California Environmental Quality Act Guidelines (CEQA Guidelines) (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (7):

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

#### AIR QUALITY REGIONAL EMISSIONS THRESHOLDS

The MDAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table 1 (8). The MDAQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the Mojave Desert Air Basin (MDAB) with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**TABLE 1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS**

Pollutant	Construction/Operations
CO	548 lbs/day
NO <sub>x</sub>	137 lbs/day
VOC	137 lbs/day
SO <sub>x</sub>	137 lbs/day
PM <sub>10</sub>	82 lbs/day
PM <sub>2.5</sub>	65 lbs/day

lbs/day – Pounds Per Day

#### REGIONAL CONSTRUCTION EMISSIONS SUMMARY

The estimated maximum daily construction emissions without mitigation are summarized on Table 2. Detailed construction model outputs are presented in Attachment A. Under the assumed



Mark Maida  
 December 6, 2022  
 Page 8 of 20

scenarios, emissions resulting from the Project construction will not exceed thresholds established by the MDAQMD for emissions of any criteria pollutant and no mitigation is required.

**TABLE 2 OVERALL REGIONAL CONSTRUCTION EMISSIONS SUMMARY**

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
2023	5.01	47.10	39.70	0.06	8.42	5.07
2024	1.51	12.70	17.60	0.03	1.09	0.63
2025	1.42	11.80	17.20	0.03	1.01	0.56
Winter						
2023	4.31	41.10	34.00	0.06	4.90	2.84
2024	1.49	12.70	16.50	0.03	1.09	0.63
2025	32.70	20.60	29.00	0.04	1.69	0.99
<b>Maximum Daily Emissions</b>	<b>32.70</b>	<b>47.10</b>	<b>39.70</b>	<b>0.06</b>	<b>8.42</b>	<b>5.07</b>
MDAQMD Regional Threshold	137	137	548	137	82	65
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

<sup>1</sup>PM<sub>10</sub> and PM<sub>2.5</sub> source emissions reflect 3x daily watering per MDAQMD Rule 403 for fugitive dust.

#### REGIONAL OPERATIONAL EMISSIONS

Operational activities associated with the Project would result in emissions of CO, VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Operational related emissions are expected from the following primary sources: area source emissions, energy source emissions, and mobile source emissions,

The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics available from the *Apple Valley TTM 20453 Traffic Scope* memorandum were utilized in this analysis (9).

The estimated operation-source emissions from the Project are summarized on Table 3. Detailed operation model outputs are presented in Attachment A. As shown on Table 3, operational-source emissions would not exceed the applicable MDAQMD regional thresholds for emissions of any criteria pollutant and no mitigation is required.

**TABLE 3: TOTAL PROJECT REGIONAL OPERATIONAL EMISSIONS**

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
Mobile Source	4.68	3.67	33.10	0.07	2.31	0.45
Area Source	5.06	1.53	6.22	0.01	0.12	0.12
Energy Source	0.05	0.78	0.33	< 0.005	0.06	0.06
<b>Total Maximum Daily Emissions</b>	<b>9.79</b>	<b>5.98</b>	<b>39.65</b>	<b>0.08</b>	<b>2.49</b>	<b>0.63</b>
MDAQMD Regional Threshold	137	137	548	137	82	65
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Winter						
Mobile Source	4.05	3.96	26.20	0.06	2.31	0.45
Area Source	4.55	1.48	0.63	0.01	0.12	0.12
Energy Source	0.05	0.78	0.33	< 0.005	0.06	0.06
<b>Total Maximum Daily Emissions</b>	<b>8.65</b>	<b>6.22</b>	<b>27.16</b>	<b>0.07</b>	<b>2.49</b>	<b>0.63</b>
MDAQMD Regional Threshold	137	137	548	137	82	65
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

#### **AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1**

##### ***Would the Project conflict with or obstruct implementation of the applicable air quality plan?***

The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans for development projects is determined by demonstrating compliance the indicators discussed below:

##### ***Consistency Criterion No. 1***

The Project site has a land use designation of “Low Density Residential” (R-LD), which allows for 1 dwelling units (DU) per 2.5 to 5 gross acres. The Project would develop 99 residential lots on approximately 120-acres, a density of 0.83 DU per acre, which is consistent with the Town of Apple Valley General Plan land use designation (10). Additionally, it should be noted that the proposed development would not exceed regional thresholds for operational emissions and would therefore be considered to have a less than significant impact. As such, the development proposed by the Project is consistent with the growth projections in the General Plan and is therefore considered to be consistent with the AQMP.

**Consistency Criterion No. 2**

**All MDAQMD Rules and Regulations**

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust).

**Consistency Criterion No. 3**

**Demonstrating that the project will not increase the frequency or severity of a violation in the federal or state ambient air quality standards**

Consistency Criterion No. 3 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional significance thresholds were exceeded. As evaluated, the Project's regional construction and operational emissions would not exceed applicable regional significance thresholds. As such, a less than significant impact is expected

**AQMP Consistency Conclusion**

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. Additionally, Project construction and operational-source emissions would not exceed the regional or localized significance thresholds. Further, the Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The Project is therefore considered to be consistent with the AQMP.

**AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2**

***Would the Project 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?***

The MDAQMD relies on the SCAQMD guidance for determining cumulative impacts. The SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (11). In this report the SCAQMD clearly states (Page D-3):

*“...the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*

*Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance*

*thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

#### **Construction Impacts**

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

#### **Operational Impacts**

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

### **AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 3**

#### ***Would the expose sensitive receptors to substantial pollutant concentrations?***

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors. The nearest sensitive receptor is the existing residence approximately 100 feet east of the Project site.

As per the MDAQMD Guidelines, the following project types located within a specified distance to an existing or planned sensitive receptor land use must be evaluated to determine exposure of substantial pollutant concentrations to sensitive receptors (18):

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

The proposed Project consists of up to 99 single family housing units and does not include the above uses. As such, no analysis for sensitive receptors is required. Additionally, results of the regional analysis indicate that the Project will not exceed the MDAQMD significance thresholds



during construction or operations. Therefore, sensitive receptors would not be subject to a significant air quality impact during Project construction and operational activities.

#### CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 4.

TABLE 4: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (20). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District

(BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (21). Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 5. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (20). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

The proposed Project considered herein would generate 934 trips and would not produce the volume of traffic required to generate a CO “hot spot” either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO “hot spots” are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

**TABLE 5: CO MODEL RESULTS**

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

#### **AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 4**

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

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills



- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also be required to comply with MDAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (12).

## PROJECT GHG ANALYSIS

### CLIMATE CHANGE SETTING

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

### **REGULATORY SETTING**

#### **Executive Order S-3-05**

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

#### **Assembly Bill (AB) 32**

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "GHGs" as defined under AB 32 include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

CARB approved the 1990 GHG emissions level of 427 million metric ton of CO<sub>2</sub> equivalent per year (MMTCO<sub>2</sub>e) on December 6, 2007 (13). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO<sub>2</sub>e. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 MMTCO<sub>2</sub>e, which do not account for reductions from

AB 32 regulations (14). At that level, a 28.4% reduction was required to achieve the 427 MMTCO<sub>2</sub>e 1990 inventory. In October 2010, CARB prepared an updated BAU 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 MMTCO<sub>2</sub>e. Therefore, under the updated forecast, a 21.7% reduction from BAU is required to achieve 1990 levels (15).

#### **Progress in Achieving AB 32 Targets and Remaining Reductions Required**

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (16). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 MMTCO<sub>2</sub>e (AB 32 2020 target)
- 2000: 463 MMTCO<sub>2</sub>e (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 MMTCO<sub>2</sub>e (an average 5% reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 MMTCO<sub>2</sub>e BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

#### **Senate Bill (SB) 32**

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (17).

#### **AB 197**

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

#### **Executive Order B-55-18 and SB 100**

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by



December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

#### **Title 24 California Code of Regulations (CCR)**

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023<sup>1</sup>. As construction of the Project is anticipated to be completed in 2025, it is presumed that the Project would be required to comply with the Title 24 standards in place at that time.

#### **MDAQMD**

According to the MDAQMD's *CEQA and Federal Conformity Guidelines*, a project is significant if it triggers or exceeds the most appropriate evaluation criteria. The MDAQMD states that in general, for GHG emissions, the significance emission threshold of 100,000 Tons CO<sub>2</sub>e (90,718.5 MT CO<sub>2</sub>e) per year is sufficient (18). A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation.

#### **Town Of Apple Valley Climate Action Plan (CAP)**

On May 2021, the Town of Apple Valley adopted the 2019 CAP Update, which was originally adopted in 2010. The CAP provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate (19). The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents a number of strategies that will make it possible for the Town to meet the recommended targets.

---

<sup>1</sup> The 2022 California Green Building Standard Code will be published July 1, 2022.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change.

The 2010 CAP concluded that the Town of Apple Valley would need to reduce greenhouse gas emissions by a minimum of 112,337 MTCO<sub>2</sub>e per year by 2020 to meet a reduction target of %15 below 2005 levels. The 2019 CAP Update provides a revised 2030 target of 299,565 MTCO<sub>2</sub>e per year for greenhouse gas emissions or %40 below baseline emission levels. Greenhouse gas inventories emissions provided in the 2019 CAP Update show that emissions were approximately 596,681 MTCO<sub>2</sub>e per year, a 38,894 MTCO<sub>2</sub>e per year exceedance as compared to the 2020 target. To achieve the 2030 target of %40 below baseline emissions, the Town of Apple Valley would need to reduce greenhouse gas emissions by 148,334 MTCO<sub>2</sub>e per year.

### **GHG IMPACTS**

#### **Standards of Significance**

According to the CEQA Guidelines Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- **Threshold 1:** Generate GHG 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 GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a “threshold of significance.” For establishing significance thresholds, the Office of Planning and Research’s amendments to the CEQA Guidelines Section 15064.7(c) state “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

CEQA Guidelines Section 15064.4(a) further states, “. . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . . ; or (2) Rely on a qualitative analysis or performance-based standards.”

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce

or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

#### Discussion on Establishment of Significance Thresholds

The Town of Apple Valley has not adopted its own numeric threshold of significance for determining impacts with respect to greenhouse (GHG) emissions, thus the MDAQMD threshold of 90,718.5 MTCO<sub>2</sub>e per year will be utilized. If Project-related GHG emissions do not exceed the 90,718.5 MTCO<sub>2</sub>e per year threshold, then Project-related GHG emissions would clearly have a less-than-significant impact pursuant to Threshold GHG-1. On the other hand, if Project-related GHG emissions exceed 90,718.5 MTCO<sub>2</sub>e per year, the Project would be considered a substantial source of GHG emissions.

#### **GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1**

***Would the Project have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment?***

#### **PROJECT GHG EMISSIONS**

The estimated GHG emissions for the Project are summarized on Table 6. The estimated GHG emission include emissions from Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), and Refrigerants (R). As shown on Table 6, the Project would generate a total of approximately 1,561.57 MTCO<sub>2</sub>e/yr.

**TABLE 6: TOTAL PROJECT GHG EMISSIONS**

Source	Emission (lbs/day)				
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	R	Total CO <sub>2</sub> E
Annual construction-related emissions amortized over 30 years	39.57	1.67E-03	6.67E-04	1.13E-02	39.87
Mobile Source	1,086.00	0.05	0.06	1.86	1,105.00
Area Source	71.00	< 0.005	< 0.005	0.00	71.10
Energy Source	283.00	0.03	< 0.005	0.00	285.00
Water	26.10	0.14	< 0.005	0.00	30.50
Waste	8.54	0.85	0.00	0.00	29.90
Refrigerants	0.00	0.00	0.00	0.20	0.20
Total CO <sub>2</sub> E (All Sources)	1,561.57				

The Town of Apple Valley has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. The MDAQMD states that in general, for



GHG emissions, the significant emission threshold of 100,000 Tons CO<sub>2</sub>e (90,718.5 MT CO<sub>2</sub>e) per year is sufficient to determine if additional analysis is required (8).

As shown in Table 6, the Project will result in approximately 1,561.57 MTCO<sub>2</sub>e/yr; the proposed project would exceed the screening threshold of 90,718.5 MTCO<sub>2</sub>e/yr. This would be considered a less than significant impact.

#### **GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2**

##### ***Would the Project have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?***

Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (20).

In November 2017, CARB released the Final 2017 Scoping Plan Update, which identifies the State's post-2020 reduction strategy. The Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (21). The Project would not conflict with any of the 2017 Scoping Plan elements. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (21).

Finally, the Project is consistent with the general plan land use designation, density, building intensity, and applicable policies specified for the Project area in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from Project construction and operation would occur and no mitigation is required.

#### **AIR QUALITY & GREENHOUSE GAS CONCLUSION**

Results of the assessment indicate that the Project is not anticipated to result in a significant impact during construction or operational activities associated with air quality and greenhouse gas and no mitigation is required.

## REFERENCES

1. **Air Resources Board.** California Ambient Air Quality Standards (CAAQS). [Online] 2009. [Cited: April 16, 2018.] <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>.
2. **Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. <https://www.epa.gov/environmental-topics/air-topics>.
3. **California Air Resources Board.** Western Mojave Desert Air Quality Management Plans. [Online] <https://www.arb.ca.gov/planning/sip/planarea/mojavesedsip.htm>.
4. **Mojave Desert Air Quality Management District.** Rule 403 Fugitive Dust Control for the Mojave Desert Planning Area. [Online] <https://www.mdaqmd.ca.gov/home/showpublisheddocument/8482/637393282546170000>.
5. —. Rule 1113 Architectural Coatings. [Online] <http://mdaqmd.ca.gov/home/showdocument?id=418>.
6. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] May 2022. [www.caleemod.com](http://www.caleemod.com).
7. **State of California.** 2020 CEQA California Environmental Quality Act. 2020.
8. **Mojave Desert Air Quality Management District.** California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. [Online] August 2016. <http://mdaqmd.ca.gov/home/showdocument?id=538>.
9. **David Evans and Associates, Inc.** Apple Valley TTM 20453 Traffic Scope Memorandum . 2022.
10. **Town of Apple Valley General Plan.** Town of Apple Valley General Plan. [Online] 2009. <https://www.applevalley.org/home/showpublisheddocument/13926/635611242901270000>.
11. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. [http://www.aqmd.gov/rules/ciwg/final\\_white\\_paper.pdf](http://www.aqmd.gov/rules/ciwg/final_white_paper.pdf).
12. **Mojave Desert Air Quality Management District.** RULE 402 NUISANCE. [Online] <https://www.mdaqmd.ca.gov/home/showpublisheddocument/290/636305704801500000>.
13. **California Air Resources Board.** GHG 1990 Emissions Level & 2020 Limit. *California Air Resources Board*. [Online] <https://ww2.arb.ca.gov/ghg-2020-limit>.
14. —. *Climate Change Draft Scoping Plan*. 2008.
15. —. STATUS OF SCOPING PLAN RECOMMENDED MEASURES. [Online] [Cited: September 19, 2019.] [https://ww3.arb.ca.gov/cc/scopingplan/status\\_of\\_scoping\\_plan\\_measures.pdf](https://ww3.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf).
16. —. *First Update to the Climate Change Scoping Plan*. 2014.
17. **California Legislative Information.** Senate Bill No. 32. [Online] September 8, 2016. [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160SB32](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32).

18. **Mojave Desert Air Quality Management District.** *MDAQMD CEQA Guidelines*. 2016.
19. **Town of Apple Valley.** Town of Apple Valley Climate Action Plan 2019 Update. [Online] 2019. <https://www.applevalley.org/home/showpublisheddocument/31233/637623641454430000>.
20. **Association of Environmental Professionals.** *2018 CEQA California Environmental Quality Act*. 2018.
21. **Lawrence Berkeley National Laboratory.** California's Policies Can Significantly Cut Greenhouse Gas Emissions through 2030. *Lawrence Berkeley National Laboratory*. [Online] January 22, 2015. <http://newscenter.lbl.gov/2015/01/22/californias-policies-can-significantly-cut-greenhouse-gas-emissions-2030/>.

**ATTACHMENT A**  
**CALEEMOD PROPOSED PROJECT EMISSIONS MODEL OUTPUTS**





## **APPENDIX B – BIOLOGY STUDY**

# GENERAL BIOLOGICAL RESOURCES ASSESSMENT

APPLE VALLEY, SAN BERNARDINO COUNTY, CALIFORNIA

(Township 4 North, Range 3 West, Section 5)  
(APN 0434-042-32)

*Prepared for:*

Merrell Johnson Engineering

*Prepared by:*

RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, California 92345  
(760) 596-0017

**Principal Investigators:**

Ryan Hunter, Senior Environmental Scientist/Biologist  
Brian Bunyi, Wildlife Biologist



**Project: #2022-108**

**July 31, 2022**

**TITLE PAGE**

**Date Report Written:** July 31, 2022

**Date Field Work Completed:** July 20, 2022

**Report Title:** General Biological Resources Assessment

**Prepared For:** Merrell Johnson Engineering

**Location:** Apple Valley, California

**Assessor's Parcel Number:** 0434-042-32

**Principal Investigators:** Ryan Hunter:  
Senior Environmental Scientist & Wildlife Biologist  
Brian Bunyi:  
Environmental Scientist & Wildlife Biologist

**Contact Information:** Randall C. Arnold, Jr.  
RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, California 92345  
(760) 596-0017  
[rarnold@rcaassociatesllc.com](mailto:rarnold@rcaassociatesllc.com)  
[www.rcaassociatesllc.com](http://www.rcaassociatesllc.com)

Ryan D. Hunter  
RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, CA 92345  
(760) 998-7165  
[rhunter@rcaassociatesllc.com](mailto:rhunter@rcaassociatesllc.com)  
[www.rcaassociatesllc.com](http://www.rcaassociatesllc.com)

## Table of Contents

1.0	INTRODUCTION AND SUMMARY .....	1
2.0	EXISTING CONDITIONS.....	2
3.0	METHODOLOGIES .....	4
4.0	LITERATURE SEARCH .....	5
5.0	RESULTS .....	7
5.1	General Biological Resources .....	7
5.2	Federal and State Listed Species.....	8
5.3	Wildlife Species of Special Concern.....	8
5.4	Jurisdictional Waters and Riparian Habitat.....	9
5.5	Protected Plants .....	9
6.0	IMPACTS AND MITIGATION MEASURES .....	10
6.1	General Biological Resources .....	10
6.2	Federal and State Listed and Species of Special Concern .....	10
7.0	CONCLUSIONS AND RECOMMENDATIONS .....	11
8.0	BIBLIOGRAPHY .....	12
	CERTIFICATION	
	REGULATORY CONTEXT	

Appendix A – Tables and Figures

REGULATORY CONTEXT

## 1.0 INTRODUCTION AND SUMMARY

Biological surveys were conducted on a 120-Acre (approximate) parcel located north east of the intersection of Deep Creek Road and Del Oro Road in the City of Apple Valley, California (Township 4 North, Range 3 West, Section 5, USGS Apple Valley South, California Quadrangle, 1956) (Figures 1, 2, and 3).

As part of the environmental process, California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed. Following the data review, surveys were performed on the site on July 20, 2022, during which the biological resources on the site and in the surrounding areas were documented by biologists from RCA Associates, Inc. As part of the surveys, the property and adjoining areas were evaluated for the presence of native habitats which may support populations of sensitive wildlife species. The property was also evaluated for the presence of sensitive habitats including wetlands, vernal pools, riparian habitats, and jurisdictional areas.

Focused surveys were conducted for the desert tortoise and burrowing owl along with a habitat assessment for the Mohave ground squirrel. Based on data from USFWS, CDFW, and a search of the California Natural Diversity Database (CNDDDB, 2022). Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2000) and Whitaker (1980).



## 2.0 EXISTING CONDITIONS

The property is 120-acres (approximately) located north east of the intersection of Deep Creek Road and Del Oro Road in the City of Apple Valley, California (Township 4 North, Range 3 West, Section 5, USGS Apple Valley South, California Quadrangle, 1956). The property is bordered by residential properties on all sides.

The site is approximately 891 meters above sea level with a hilly contour and supports a heavily disturbed ruderal plant community common in the region due to the site being previously graded. The vegetation community on site is creosote bush scrub habitat encompassing mainly native plants and some non-native grasses. The site is dominated by creosote bush (*Larrea tridentata*), kelch grass (*Schismus barbatus*), Nevada jointfir (*Ephedra nevadensis*), red-stem storksbill (*Erodium cicutarium*) coyote melon (*Cucurbita californica*) Joshua Tree (*Yucca brevifolia*) and white bursage (*Ambrosia dumosa*). Section 5.0 provides a more detailed discussion of the various plant species observed during the surveys.

The site supports a minimal amount of wildlife, with majority of them being birds. One mammal, the California ground squirrel (*Otospermophilus beecheyi*), was observed on site. Other mammals that are expected to occur include desert cottontails (*Sylvilagus audubonii*), antelope ground squirrel (*Ammospermophilus leucurus*), and black-tailed jackrabbit (*Lepus californicus*). Coyotes (*Canis latrans*) may also occasionally occur on site during hunting activities.

Birds observed included ravens (*Corvus corax*), turkey vulture (*Cathartes aura*) Red tailed hawk (*Buteo jamaicensis*), anna's hummingbird (*Calypte anna*) and house finch (*Haemorrhous mexicanus*). Section 5.0 provides a more detailed discussion of the various species observed during the surveys.

No reptiles were observed during the survey. Reptiles that may occur on the site include the desert spiny lizard (*Sceloporus magister*), zebra-tailed lizard (*Callisaurus draconoides*), the western whiptail lizard (*Cnemidophorus tigris*), the long nose leopard lizard (*Gambelia wislizenii*), and the common side-blotched lizard (*Uta stansburiana*). 2 provides a compendium of wildlife species.

In addition, no sensitive habitats (e.g., sensitive species critical habitats, etc.) have been documented in the immediate area according to the CNDDB (2022) and none were observed during the field investigations.

### 3.0 METHODOLOGIES

General biological surveys were conducted on July 20, 2022, during which biologists from RCA Associates, Inc. initially walked meandering transects throughout the property. During the surveys, data was collected on the plant and animal species present on the site. All plants and animals detected during the surveys were recorded and are provided in Tables 1 & 2 (Appendix A). The property was also evaluated for the presence of habitats which might support sensitive species. Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2000) and Whitaker (1980). Following completion of the initial reconnaissance survey, habitat assessments were conducted for the desert tortoise, burrowing owl, and Mohave ground squirrel. Weather conditions consisted of wind speeds of 0 to 5 mph, temperatures in the low to mid 80's (°F) (PM) with 15% cloud cover. The applicable methodologies are summarized below.

**General Plant and Animal Surveys:** Meandering transects were walked on the site and in surrounding areas (i.e., the zone of influence) where accessible at a pace that allowed for careful documentation of the plant and animal species present on the site. All plants observed were identified in the field and wildlife was identified through visual observations and/or by vocalizations. Habitat assessments were conducted for the desert tortoise, burrowing owl, and Mohave ground squirrel. Tables 1 and 2 (Appendix A) provides a comprehensive compendium of the various plant and animal; species observed during the field investigations.

#### 4.0 LITERATURE SEARCH

As part of the environmental process, a search of the California Natural Diversity Database (CNDDB) search was performed. Based on this review, it was determined that ten special status species have been documented within the Apple Valley South quadrangle of the property, seven wildlife species and three plant species. The following tables provide data on each special status species which has been documented in the area.

**Table 4-1: Federal and State Listed Species and State Species of Special Concern.**

E = Endangered; T = Threatened; SSC = Species of special concern; CNPS = California Native Plant Society;  
 CNDDB = California Natural Diversity Data Base

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
<b>PLANTS</b>			
<b>Within Apple Valley South Quadrangle</b>			
Pinyon rockcress ( <i>Boechera dispar</i> )	Federal: Threatened State: Threatened CNPS: 2B.3	Creosote bush scrub, Joshua tree woodland, pinyon-juniper woodland	The site does not support suitable habitat for the species; however, none were observed during field surveys.
San Bernardino Mountains dudleya ( <i>Dudleya abramsii</i> ssp. <i>affinis</i> )	Federal: None State: None CNPS: 1B.2	Pinyon-juniper woodland, upper montane coniferous, pebble plain	Site does not support suitable habitat for the species; and no species were observed during the field survey.
Booth's evening-primrose ( <i>Eremothera boothii</i> ssp. <i>boothii</i> )	Federal: None State: Threatened CNPS: 2B.3	Joshua tree woodland, pinyon and juniper woodland	The site does not support suitable habitat for the species, and none were observed during field surveys.

**Notes:**

Status abbreviations:

- CNPS List 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- CNPS List 1B: Plants rare, threatened, or endangered in California and elsewhere
- CNPS List 2A: Plants presumed extirpated in California, but more common somewhere else
- CNPS List 2B: Plants rare, threatened, or endangered in California, but more common somewhere else
- CNPS List 3: Plants about which more information is needed - a review list
- CNPS List 4: Plants of limited distribution - a watch list
  - .1 Seriously threatened in California (over 80% of occurrences threatened/ high degree and immediacy of threat)
  - .2 Moderately threatened in California (20-80% occurrences threatened/ moderate degree and immediacy of threat)

.3 No very threatened in California (<20% of occurrences threatened/ low degree and immediacy of threat or no current threats known)

**Table 4-2: Special status wildlife and insects documented in the region (Source: CNDDDB, 2022) or likely to occur in the region**

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
<b>Wildlife Species</b>			
<b>Within Apple Valley South Quadrangle</b>			
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	Federal: None State: None	Pine forests and arid desert scrub habitats near caves or roosting areas.	The site does not support some suitable habitat and no species were observed.
Burrowing owl ( <i>Athene cunicularia</i> )	Federal: None State: None	Grasslands and desert habitats	The site does support minimal suitable habitat for the species; however, no owls or owl sign was observed during field surveys.
Mohave ground squirrel ( <i>Xerospermophilus mohavensis</i> )	Federal: None State: Threatened	Desert scrub	The site does not support suitable habitat for the species. Species has not been identified in the area; therefore, species are not likely to inhabit the site.
Pallid San Diego pocket mouse ( <i>Chaetodipus fallax pallidus</i> )	Federal: None State: None	Low growing vegetation and rocky outcroppings.	The site does support some suitable habitat, although no species were observed and are not likely to occur.
Le Conte's thrasher ( <i>Toxostoma lecontei</i> )	Federal: None State: None	Desert scrub	Site does not support suitable habitat for the species; but no thrashers were observed during the field survey.
Coast Horned Lizard ( <i>Phrynosoma blainvillii</i> )	Federal: None State: None	Desert scrub Sandy washes	The site does not support suitable habitat for the species; however, no coast horned lizard was observed during field surveys.
Mohave tui chub ( <i>Siphateles bicolor mohavensis</i> )	Federal: Endangered State: Endangered	Three populations exist at Soda Springs, China Lake Naval Weapons Station, and Camp Cady Wildlife Area	No suitable habitat on site, and will not occur on site.



## 5.0 RESULTS

### 5.1 General Biological Resources

The site supports a ruderal plant community which covers the greater portion of property (Figure 3). Species present on the site included kelch grass (*Schismus barbatus*), creosote bush (*Larrea tridentata*), Asian mustard (*Brassica tournefortii*), chamiso (*Atriplex canescens*), pineapple weed (*Matricaria discoidea*), bladder sage (*Scutellaria mexicana*), cheatgrass (*Bromus tectorum*), and silver cholla (*Cylindropuntia echinocarpa*). Table 1 provides a compendium of all plants occurring on the site and/or in the immediate surrounding area.

Birds observed included ravens (*Corvus corax*), red tailed hawk (*Buteo jamaicensis*), cactus wren (*Campylorhynchus brunneicapillus*) and house finch (*Haemorrhous mexicanus*). No reptiles were observed during the survey. Some reptiles that may occur on the site include desert spiny lizard (*Sceloporus magister*), zebra-tailed lizard (*Callisaurus draconoides*), western whiptail lizard (*Cnemidophorus tigris*), long nose leopard lizard (*Gambelia wislizenii*), and the common side-blotched lizard (*Uta stansburiana*). One mammal was observed on site, the California ground squirrel (*Otospermophilus beecheyi*). Antelope ground squirrel burrows (*Ammospermophilus leucurus*) were also observed on site. black-tailed jackrabbit (*Lepus californicus*), desert cottontails (*Sylvilagus audubonii*), coyote (*Canis latrans*), and Merriam's kangaroo rats (*Dipodomys merriami*) may also occur on the site given their wide-spread distribution in the region. Tables 1 and 2 (Appendix A) provides a compendium of the various plant and animal species identified during the field investigations and those common to the area. No distinct wildlife corridors were identified on the site or in the immediate area.

No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

The following are the listed and special status species that have the ability to occur on the project site. It is not a comprehensive list of all the species in the Barstow SE quadrangle. This information has been taken from the California Natural Diversity Database and is using the most current version.



## 5.2 Federal and State Listed Species

**Desert Tortoise:** The site is located within the documented tortoise habitat according to CNDDDB (2022) and supports minimal habitat for the desert tortoise based on the field investigations. No tortoises were observed anywhere within the property boundaries or within the zone of influence during the July 20, 2022 surveys. The species is not expected to move onto the site in the near future based on the absence of any sign, absence of suitable burrows, absence of any recent observations in the immediate area, and the presence of busy roadways in the immediate area which may act as barriers to migration of the tortoises. The protocol survey results are valid for one year as per CDFW and USFWS requirements.

**Mohave Ground Squirrel:** The site does occur within the known distribution of the Mohave Ground Squirrel, but no recent observations of Mohave ground squirrels have occurred in the area. It is the opinion of RCA Associates, Inc. that the habitat is not prime Mohave ground squirrel habitat and is very unlikely to support populations of the species based on the following criteria:

1. Site has been graded in the past.
2. No recent documented observations in the general region.
3. No connectivity with habitat which may support the species.

## 5.3 Wildlife Species of Special Concern

**Burrowing Owl:** The site is located within documented burrowing owl habitat according to CNDDDB (2022) and does support minimal suitable habitat for the species. Few suitable burrows were located during the July 2022 field investigations, but no owls or owl sign (e.g., white wash, castings etc.) was observed at the mouth of the burrows or on the property during the survey. A pre-construction survey may need to be done within 30 days of ground breaking activities.

#### 5.4 Jurisdictional Waters and Riparian Habitat

No riparian vegetation (e.g., cottonwoods, willows, etc.) exist on the site or in the adjacent habitats. According to the wetlands mapper (USFW), a blue line stream runs across the middle of the property, however since the site has been graded no evidence of that stream was visible during the July 2022 field survey.

#### 5.5 Protected Plants

As of September 22, 2020, the California Department of Fish and Wildlife temporarily listed the western Joshua tree (*Yucca brevifolia*) as an endangered species until a final decision is made in 2022. Joshua trees were observed on site during the July 20, 2022 field investigations. Any attempt to remove dead or alive Joshua trees from the property will require an Incidental Take Permit. A Joshua tree survey was done in tandem with the biological assessment on site on July 20, 2022 and the Joshua trees were tagged and marked for GPS locations.

## 6.0 IMPACTS AND MITIGATION MEASURES

### 6.1 General Biological Resources

Future development of the site will have minimal impact on the general biological resources present on the site, and most, if not all, of the vegetation will likely be removed during future construction activities. Wildlife will also be impacted by development activities and those species with limited mobility (i.e., small mammals and reptiles) will experience increases in mortality during the construction phase. However, more mobile species (i.e., birds, large mammals) will be displaced into adjacent areas and will likely experience minimal impacts. Therefore, loss of about 120-acres of desert vegetation is not expected to have a significant cumulative impact on the overall biological resources in the region given the presence of similar habitat throughout the surrounding desert region. No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

### 6.2 Federal and State Listed and Species of Special Concern

No federal or State-listed wildlife species were observed on the site during the field investigations including the Mohave ground squirrel and desert tortoise. In addition, there are no documented observations of these species either on the site or in the immediate area. The site is not expected to support populations of the desert tortoise based on the absence of sign and minimal suitable habitat.

The Western Joshua tree (*Yucca brevifolia*), a candidate threatened species under the California Endangered Species Act (CESA), was observed on site. Refer to section 5.5 for more information on the status and requirements on this species.

As per CDFW protocol, the burrowing owl survey results are valid for only 30 days; therefore, CDFW may require a 30-day pre-construction survey be performed prior to any clearing/grading activities to determine if owls have moved on to the site since the July 20, 2022, surveys.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

Future development activities are expected to grade the property and remove the remaining vegetation from the 120-acre parcel; however, cumulative impacts to the general biological resources (plants and animals) in the surrounding area are expected to be negligible. This assumption is based on the habitat containing scarce vegetation of non-native species. In addition, future development activities are not expected to have any impact on any State or Federal listed or State special status plant or animal species. As discussed above, the site does not support any desert tortoises. In addition, burrowing owls do not inhabit the site and are not expected to be impacted given the absence of any suitable burrows. The following mitigation measures should be considered:

1. Pre-construction surveys for burrowing owls, desert tortoise, and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.
  - a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as the desert tortoise, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.

If any sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the “take” of any sensitive species and can approve the implementation of any applicable mitigation measures

## 8.0 BIBLIOGRAPHY

- Baldwin, Bruce G, et. al.  
2002. The Jepson Desert Manual. Vascular Plants of Southeastern California. University of California Press, Berkeley, CA.
- Bureau of Land Management  
January 2005. Final Environmental Impact Report and Statement for the West Mojave Plan. Vol. 1A.
- California Burrowing Owl Consortium  
1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.
- California Department of Fish and Game  
1990. California Wildlife: Volume 1 (Amphibians and Reptiles), Volume II (Birds), and Volume III (Mammals).
- California Department of Fish and Game  
2003. Mohave Ground Squirrel Survey Guidelines.
- California Department of Fish and Game  
2014. Rarefind 3 Natural Diversity Database. Habitat and Data Analysis Branch. Sacramento, CA.
- California Department of Fish and Game  
March 7, 2013. Staff Report on Burrowing Owl Mitigation. 34 pp.
- California Native Plant Society  
2001. Inventory of Rare and Endangered Plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA x + 388 pp.
- Ehrlich, P., Dobkin., Wheye, D.  
Birder's Handbook. A Field Guide to the Natural History of North American Birds. Simon & Schuster Building Rockefeller Center 1230 Avenue of the Americas. New York, New York 10020.
- Hickman, James C.  
The Jepson Manual Higher Plants of California. University of California Press. Berkeley, CA. 3<sup>rd</sup> Edition. 1996.
- Jaeger, Edmund C.  
1969. Desert Wild Flowers. Stanford University Press, Stanford, California. 321 pp.
- Kays, R. W. & Wilson, D. E.  
Mammals of North America. Princeton University Press, Princeton, New Jersey. 2002.



- Munz, Philip A.  
1974. A Flora of Southern California. University of California Press, Berkeley, California. 1086 pp.
- Tugel, Arlene J., Woodruff, George A.  
Soil Conservation Service, 1978. Soil Survey of San Bernardino County California, Mojave River Area.
- Sibley, David Allen.  
National Audubon Society. The Sibley guide to Birds. Alfred A Knopf, Inc. 2000.
- Stebbins, Robert C.  
A Field Guide to Western Reptiles and Amphibians. Houghton Mifflin Company. 2003.
- U.S. Fish and Wildlife Service  
2010 Desert Tortoise Survey Protocol.
- Whitaker, John O.  
The Audubon Society Field Guide to North American Mammals. Alfred A Knopf, Inc. 1980.

**CERTIFICATION**

I hereby certify that the statements furnished above and in the attached exhibits, presents the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by Ryan Hunter and Brian Bunyi. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

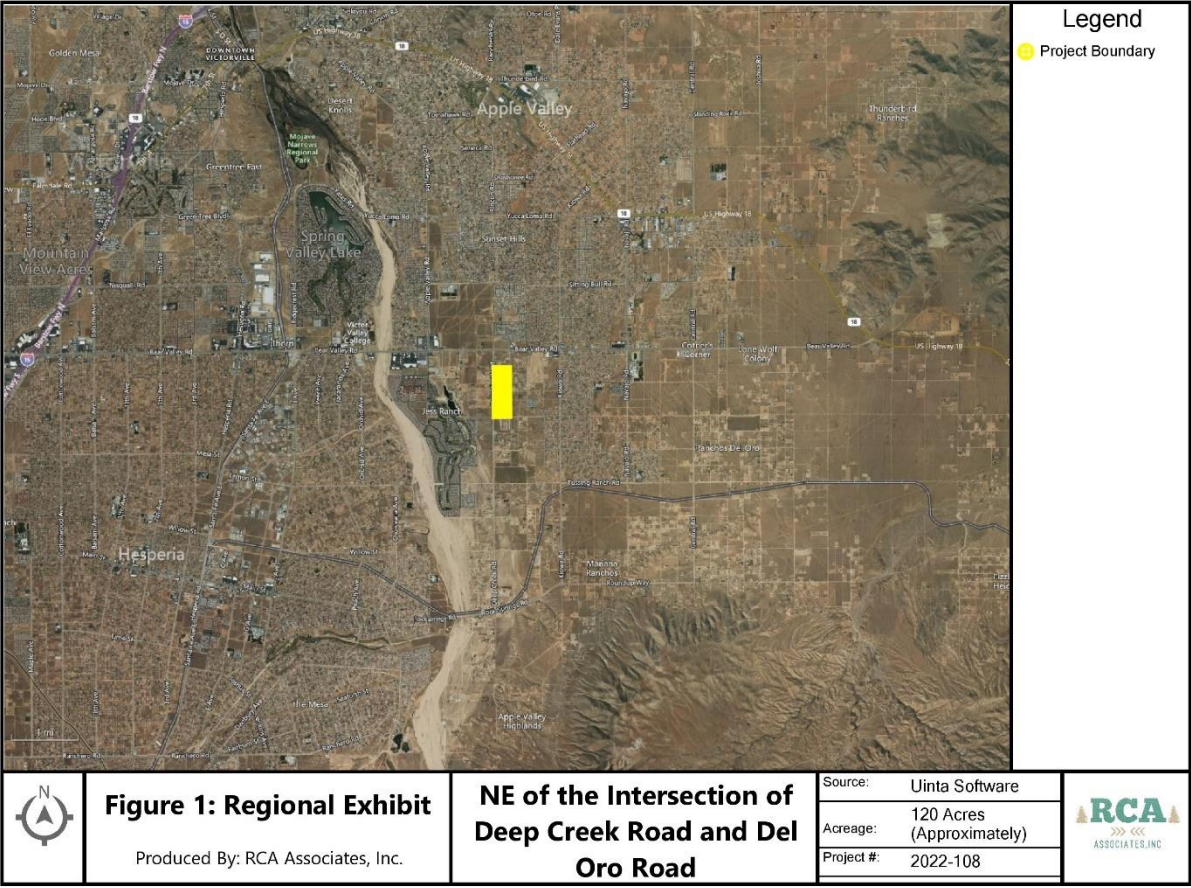
Date: 7/31/2022 Signed: *Ryan Hunter*  
*Brian Bunyi*

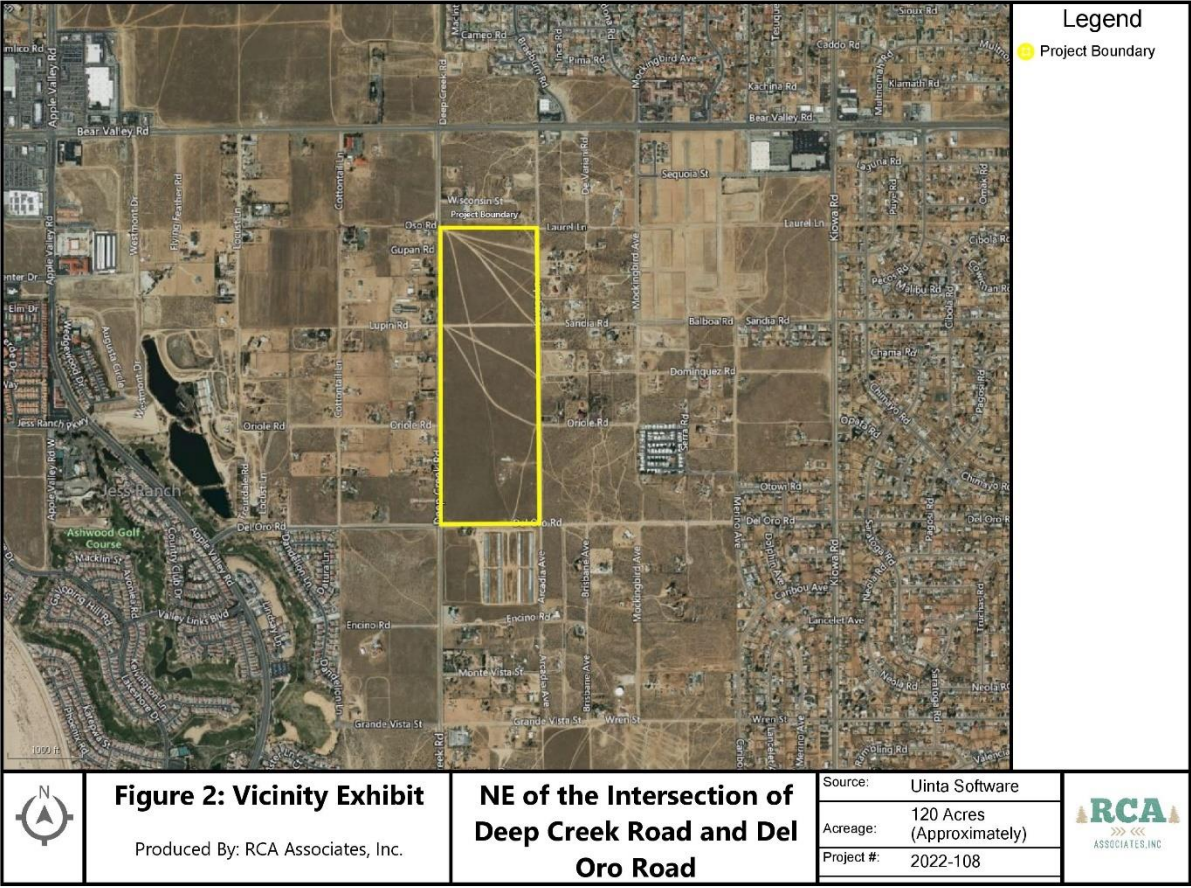
Field Work Performed By: Ryan Hunter  
Senior Environmental Scientist/Biologist

Field Work Performed By: Brian Bunyi  
Wildlife Biologist

**Appendix A  
Tables and Figures**

TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32







CENTER OF SITE LOOKING NORTH



CENTER OF SITE LOOKING EAST

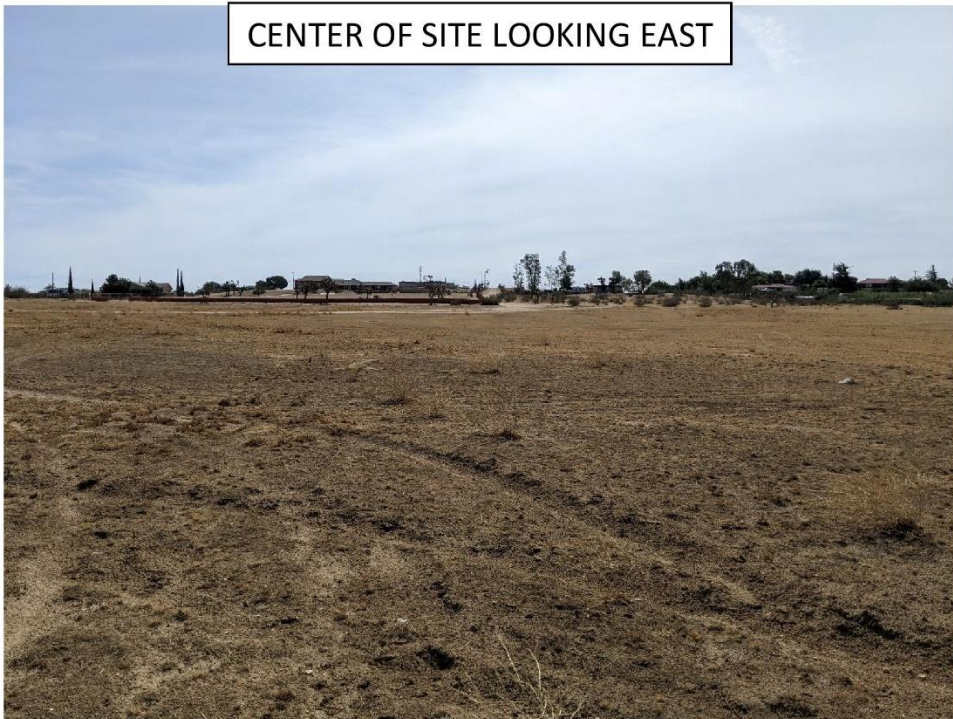


FIGURE 3: PHOTOGRAPHS OF SITE



CENTER OF SITE LOOKING SOUTH



CENTER OF SITE LOOKING WEST



FIGURE 3, cont: PHOTOGRAPHS OF SITE

**Table 1 - Plants observed on the site and known to occur in the immediate surrounding area.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Location</b>
Asian mustard	<i>Brassica tournefortii</i>	On Site
Cheatgrass	<i>Bromus tectorum</i>	“
Chamiso	<i>Atriplex canescens</i>	“
Creosote bush	<i>Larrea tridentata</i>	“
Fiddleneck	<i>Ansickia tessellata</i>	“
Kelch grass	<i>Schismus barbatus</i>	“
Nevada jointfir	<i>Ephedra nevadensis</i>	“
Western tansymustard	<i>Descurainia pinnata</i>	“
Rubber rabbitbrush	<i>Ericameria nauseosa</i>	“
Desert globe mallow	<i>Sphaeralcea ambigua</i>	“
Pineapple weed	<i>Matricaria discoidea</i>	“
Bladder Sage	<i>Scutellaria mexicana</i>	“
Western Jimson weed	<i>Datura wrightii</i>	“
Coyote Melon	<i>Cucurbita palmata</i>	“
Siberian elm	<i>Ulmus pumila</i>	“

Note: The above list is not intended to be a comprehensive list of every plant which may occur on the site or in the zone of influence.

**Table 2 - Wildlife observed on the site during the field investigations.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Location</b>
Common raven	<i>Corvus corax</i>	On-site and in the surrounding area.
House finch	<i>Carpodacus mexicanus</i>	“
Anna’s hummingbird	<i>Calypte anna</i>	“
Rock pigeon	<i>Columba livia</i>	“
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	“
Red tailed hawk	<i>Buteo jamaicensis</i>	“
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	“
Turkey vulture	<i>Cathartes aura</i>	“

Note: The above Table is not a comprehensive list of every animal species which may occur in the area, but is a list of those common species which were identified on the site or which have been observed in the region by biologists from RCA Associates, Inc.

## REGULATORY CONTEXT

The following provides a summary of federal and state regulatory jurisdiction over biological and wetland resources. Although most of these regulations do not directly apply to the site, given the general lack of sensitive resources, they provide important background information.

### Federal Endangered Species Act

The USFWS has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (ESA) and its implementing regulations prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the ESA. ESA defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Federal regulation 50CFR17.3 defines the term “harass” as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering (50CFR17.3). Furthermore, federal regulation 50CFR17.3 defines “harm” as an act that either kills or injures a listed species. By definition, “harm” includes habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavior patterns such as breeding, spawning, rearing, migrating, feeding, or sheltering (50CFR217.12).

Section 10(a) of the ESA establishes a process for obtaining an incidental take permit that authorizes non federal entities to incidentally take federally listed wildlife or fish. Incidental take is defined by ESA as take that is “incidental to, and not the purpose of, the carrying out of another wise lawful activity.” Preparation of a habitat conservation plan, generally referred to as an HCP, is required for all Section 10(a) permit applications. The USFWS and National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) have joint authority under the ESA for administering the incidental take program. NOAA Fisheries Service has jurisdiction over anadromous fish species and USFWS has jurisdiction over all other fish and wildlife species.

Section 7 of the ESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA, or result in the destruction or adverse modification of its habitat. Federal agencies are also required



to minimize impacts to all listed species resulting from their actions, including issuance or permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (ESA requires that the USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered). This consultation results in a Biological Opinion prepared by the USFWS stating whether implementation of the HCP will result in jeopardy to any HCP Covered Species or will adversely modify critical habitat and the measures necessary to avoid or minimize effects to listed species.

Although federally listed animals are legally protected from harm no matter where they occur, Section 9 of the ESA provides protection for endangered plants by prohibiting the malicious destruction on federal land and other “take” that violates State law. Protection for plants not living on federal lands is provided by the California Endangered Species Act.

#### **California Endangered Species Act**

CDFW has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Fish and Wildlife Code. Section 2080 prohibits the take of a species listed by CDFW as threatened or endangered. The state definition of take is similar to the federal definition, except that Section 2080 does not prohibit indirect harm to listed species by way of habitat modification. To qualify as take under the state ESA, an action must have direct, demonstrable detrimental effect on individuals of the species. Impacts on habitat that may ultimately result in effects on individuals are not considered take under the state ESA but can be considered take under the federal ESA.

Proponents of a project affecting a state-listed species must consult with CDFW and enter into a management agreement and take permit under Section 2081. The state ESA consultation process is similar to the federal process. California ESA does not require preparation of a state biological assessment; the federal biological assessment and the CEQA analysis or any other relevant information can provide the basis for consultation. California ESA requires that CDFW coordinate consultation for joint federally listed and state-listed species to the extent possible; generally, the state opinion for the listed species is brief and references provisions under the federal opinion.

#### **Clean Water Act, Section 404**

The COE and the U.S. Environmental Protection Agency regulate the placement of dredged or fill material into “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the United States include lakes, rivers, streams, and their tributaries, and wetlands. Wetlands are defined for regulatory purposes as “areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3).

The COE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits (NWP’s) are general permits issued to cover particular fill activities. All NWP’s have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each NWP.

#### **Clean Water Act, Section 401**

Section 401 of the Clean Water Act requires water quality certification and authorization of placement of dredge or fill material in wetlands and Other Waters of the United States. In accordance with Section 401 of the Clean Water Act, criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. As such, proponents of any new project which may impair water quality as a result of the project are required to create a post construction stormwater management plan to insure offsite water quality is not degraded. The resulting requirements are used as criteria in granting National Pollution Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Central Valley Regional Water Quality Control Board (RWQCB). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

**California Fish and Wildlife Code, Sections 1600-1616**

Under the California Fish and Wildlife Code, Sections 1600-1616 CDFW regulates projects that divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. Proponents of such projects must notify CDFW and enter into a streambed alteration agreement with them.

Section 1602 of the California Fish and Wildlife Code requires a state or local government agency, public utility, or private entity to notify CDFW before it begins a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, bank, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Once the notification is filed and determined to be complete, CDFW issues a streambed alteration agreement that contains conditions for construction and operations of the proposed project.

**California Fish and Wildlife Code, Section 3503.5**

Under the California Fish and Wildlife Code, Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes (hawks, eagles, and flacons) or Strigiformes (owls). Take would include the disturbance of an active nest resulting in the abandonment or loss of young.

**Migratory Bird Treaty Act**

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term “take” is defined as “to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires.” Most bird species native to North America are covered by this act.

**Sensitive Natural Communities**

The California Office of Planning and Research and the Office of Permit Assistance (1986) define project effects that substantially diminish habitat for fish, wildlife, or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA.

This definition applies to certain natural communities because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. For this study, the term “sensitive natural community” includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of sensitive natural communities continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., not special status species) could become less viable. Loss of sensitive natural communities also can eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands for example.

#### **Protected Plants**

The California Desert Native Plant Act was passed in 1981 to protect non-listed California desert native plants from unlawful harvesting on both public and privately-owned lands. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit. The following plants are under the protection of the California Desert Native Plants Act:

- Dalea spinosa (smoketree)
- All species of the genus Prosopis (mesquites)
- All species of the family Agavaceae (century plants, nolinias, yuccas)
- All species of Cactus
- Creosote Rings, ten feet in diameter or greater
- All Joshua Trees

The project would be required to comply with the County of San Bernardino Desert Native Plant Protection Ordinance. The removal of any trees listed under Section 88.01.060 would be required to comply with Section 88.01.050, which requires the project applicant to apply for a Tree or Plant Removal Permit prior to removal from the project site.

## **APPENDIX C – CULTURAL STUDY**





# Cultural and Paleontological Resources Assessment

## TTM 20453 Project

Town of Apple Valley, San Bernardino County, California

Prepared for:  
Mark Maida  
13302 Ranchero Road  
Oak Hills, California 92344

Prepared by:  
Brian Glenn  
Duke Cultural Resources Management, LLC  
18 Technology Dr., Ste. 103  
Irvine, CA 92618  
949-356-6660  
[www.dukecrm.com](http://www.dukecrm.com)

Duke CRM Project Number: C-0421



September 2022

*Per California Government Code 6254.10 archaeological site location information is exempt from the California Public Records Act. Therefore, archaeological site location information should be kept confidential and not be made available for public view.*

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

**TABLE OF CONTENTS**

TABLE OF CONTENTS .....	i
ABBREVIATIONS .....	ii
MANAGEMENT SUMMARY .....	iii
INTRODUCTION .....	1
Project Description and Location.....	1
Regulatory Environment.....	1
CEQA.....	1
SETTING.....	2
Natural.....	2
Old alluvial and fan deposits ( <i>Qoa</i> & <i>Qof</i> ).....	3
Cultural.....	3
Prehistory.....	3
Ethnography.....	4
History.....	6
METHODS.....	7
Paleontological Research.....	7
Cultural Resources Research .....	8
Personnel .....	8
RESULTS .....	8
Paleontological Records Search .....	8
NAHIC Sacred Lands File Search .....	8
Cultural Resources Records Search.....	9
Additional Research.....	9
Field Survey.....	10
IMPACTS ANALYSIS AND RECOMMENDATIONS .....	10
REFERENCES.....	12

**Figures (Appendix A)**

Figure 1: Project Vicinity Map .....	A2
Figure 2: Project Location (Apple Valley North USGS 7.5' quadrangle).....	A3
Figure 3: Project Aerial .....	A4
Figure 4: Overview of Project area from northwest corner of Project boundary, view south. ....	A5
Figure 5: Overview of Project area from northwest corner of Project boundary, view east.....	A5
Figure 6: Overview of Project area from southern edge of Project boundary, view north. ....	A6
Figure 7: Overview of Project area from southern edge of Project boundary, view east. ....	A6
Figure 8: Overview of Project area from southern edge of Project boundary, view northeast. ....	A7
Figure 9: Overview of Project area from southern edge of Project boundary, view northwest. ....	A7
Figure 10: Overview of concrete foundations in the southeast quarter of the Project, view north.....	A8
Figure 11: Project area soils.....	A8

**Tables**

Table 1: Geologic Units and their Paleontological Potential .....	8
Table 2: Cultural Resources within ½-mile radius of Project.....	9

**Appendices**

Appendix A: Figures
Appendix B: Paleontological Records Search Results
Appendix C: Resumes
Appendix D: Native American Heritage Commission Sacred Lands File Search
Appendix E: Cultural Resources Records Search Results

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

**ABBREVIATIONS**

AB52 .....	Assembly Bill 52
B.A. ....	Bachelor of Arts
CRHR .....	California Register of Historical Resources
CEQA .....	California Environmental Quality Act of 1970
Client .....	Mark Maida
DUKE CRM .....	Duke Cultural Resources Management
EIR .....	Environmental Impact Report
M.A. ....	Master of Arts
MLD .....	Most Likely Descendant
NAHC .....	Native American Heritage Commission
NRHP .....	National Register of Historic Places
PRC .....	Public Resources Code
Project .....	Tentative Tract Map 20453 Project
<i>Qoa</i> .....	Quaternary older alluvial deposits
<i>Qot</i> .....	Quaternary older terrace deposits
RPA .....	Registered Professional Archaeologist
SCCIC .....	South Central Coastal Information Center
Town .....	Town of Apple Valley
TCR .....	Tribal Cultural Resources
TTM .....	Tentative Tract Map
UCSG .....	University of California, Santa Barbara
USGS .....	United States Geological Survey
WSC .....	Western Science Center

## DUKE CULTURAL RESOURCES MANAGEMENT

---

### MANAGEMENT SUMMARY

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Mr. Mark Maida (Client) to provide cultural and paleontological resources services for the Tentative Tract Map (TTM) 20453 Project (Project), located in the Town of Apple Valley, County of San Bernardino, California. The Project proposes to develop an existing vacant 120 acres of land and provide a Tentative Tract Map for a housing development with 3/4 – 1 acre parcels of land, ready for development of single family homes in an equestrian friendly neighborhood with a community recreation center. Excavation is not anticipated to exceed seven (7) feet. The purpose of this report is to document identification efforts for cultural/paleontological resources as required by the California Environmental Quality Act of 1970 (CEQA). The Town of Apple Valley (Town) is the Lead Agency for CEQA.

The cultural and paleontological resources assessment includes a records search, archival research, and a field survey. Our research indicates that there is a high sensitivity for paleontological resources in the old alluvial deposits (*Qoa, Qof*) that underlie the Project. Therefore, significant and unique paleontological resources may be impacted by the project during earth disturbing activities in this area. These impacts would be considered potentially significant. In order to reduce the potential for impacts to paleontological resources to a level that is less than significant under CEQA and the General Plan Environmental Impact Report (EIR) for the Town (Terra Nova 2009, p. III-80), paleontological monitoring is recommended from the outset and during all ground disturbance associated with the Project. If no fossils are obtained, monitoring may be reduced after half the proposed ground disturbance has been completed.

The results of the records search from the South Central Coastal Information Center (SCCIC) indicated that no cultural resources have been previously recorded within the Project area and four (4) recorded cultural resources are within a 1/2 -mile radius of the Project. In addition to the records search at the SCCIC, DUKE CRM conducted a review of on-line historical aerial photographs and historic United States Geological Survey (USGS) quad maps utilizing University of California, Santa Barbara (UCSB) FrameFinder and USGS Historical Topographic Map Explorer.

On August 26 2022, DUKE CRM archaeologists conducted an intensive pedestrian field survey of the 120-acre Project area. Field inspection documented a cluster of poured concrete foundations where imagery analysis documented circa-1950 complex had been located until at least 1986. No trace was seen of the 1902 road documented from historical maps. No CRHR-eligible / CEQA important cultural resources were observed during the field survey. No paleontological resources were identified as a result of survey.

Due to the lack of significant historical resources in the Project and the surrounding area, and the high level of disturbance observed during the field survey, the Project has a low sensitivity for intact archaeological resources. Archaeological monitoring is not recommended.

If the Project description changes additional studies may be warranted. If archaeological resources are discovered during construction, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the remains pursuant to State Public Resources Code Section 5097.98. The County Coroner must be notified immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.



**DUKE** CULTURAL RESOURCES MANAGEMENT

---

THIS PAGE INTENTIONALLY LEFT BLANK

## DUKE CULTURAL RESOURCES MANAGEMENT

---

### INTRODUCTION

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Mark Maida (Client) to provide cultural and paleontological resources services for the Tentative Tract Map (TTM) 20453 Project (Project), located in the Town of Apple Valley, County of San Bernardino, California (Appendix A, Figures 1, 2, and 3).

#### Project Description and Location

The Project proposes to develop an existing vacant 120 acres of land and provide a Tentative Tract Map for a housing development with 3/4 – 1 acre parcels of land, ready for development of single family homes in an equestrian friendly neighborhood with a community recreation center. Excavation is not anticipated to exceed seven (7) feet. The Project area is located in Section 5, Township 4 North, Range 3 West, San Bernardino Baseline and Meridian as shown on the United States Geological Survey (USGS) *Apple Valley South, Calif* 7.5-minute quadrangle map (Appendix A, Figure 2, Project Location). Specifically, the Project is bounded on the west by Deep Creek Road, Del Oro Road on the south, Savage Lane on the east, and Gupan Road on the north (Appendix A, Figure 3, Project Aerial).

#### Regulatory Environment

##### CEQA

The California Environmental Quality Act (CEQA) guidelines define a *historical resource* as a resource listed in or determined eligible for listing in the California Register of Historical Resources (CRHR). This includes cultural resources that have been determined eligible for a local register through a local historic resources survey. A resource may be considered potentially eligible for listing in the CRHR if it meets any of the four criteria listed below:

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

To be considered a *historical resource* a cultural resource should also possess integrity of location, design, setting, materials, workmanship, feeling and association. As used here, integrity is defined as the ability of a historical resource to convey its significance. To determine which of these factors are most important will depend on the property being evaluated and which particular CRHR criterion under which the resource is considered eligible for listing.

Furthermore, CEQA necessitates that the lead agency consider whether the project will significantly affect *unique archaeological resources* that may be ineligible for listing in the CRHR and to avoid these unique archaeological resources when possible or mitigate any effects to less than significant levels (Public Resources Code [PRC] 21083.2). As stated by CEQA, a *unique archaeological resource* means an archaeological artifact, object, or site which clearly demonstrates with a high probability that it meets, without merely adding to the current body of knowledge, any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

Is directly associated with a scientifically recognized important prehistoric or historic event or person. Impacts to non-unique archaeological resources are generally not considered a significant

## **DUKE** CULTURAL RESOURCES MANAGEMENT

---

environmental impact (PRC section 21083.2(a); CEQA Guidelines section 15064.5(c)(4).) However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA provides protection for paleontological resources if they represent “a unique paleontological resource or site” (Section V(c) of Appendix G). CEQA does not provide criteria for “unique,” but in their discussion of paleontological resources under CEQA, Scott and Springer (2003) establish five criteria for determining if a fossil or resource is scientifically significant:

1. The fossils provide data on the evolutionary relationships and developmental trends among organisms, both living and extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; and/or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

## **SETTING**

### **Natural**

California is divided into 11 geomorphic provinces, each naturally defined by unique geologic and geomorphic characteristics. The Project is located in the southwestern portion of the Mojave Desert geomorphic province. The Mojave Desert province is a broad interior region of isolated mountain ranges separated by expanses of desert plains. It has an interior enclosed drainage and many playas.

The Mojave Desert region provides unique, biologic communities. The High Desert’s plant communities consist of Creosote, Joshua Tree, Alkali Sink, and Shadscale Scrub. These plant communities provide resources to support small mammals (rats, rabbits), coyotes, bobcats, reptiles (tortoises, snakes, lizards), birds (roadrunners, woodpeckers), and insects (termites, bees, moths) (Schoenherr 1992).

The Mojave Desert province is wedged in a sharp angle between the Garlock Fault (southern boundary Sierra Nevada) and the San Andreas Fault, where it bends east from its northwest trend. The northern boundary of the Mojave Desert province is separated from the prominent Basin and Range by the eastern extension of the Garlock Fault. The Mojave Desert province is bound to the south by the Transverse Ranges and Colorado Desert geomorphic provinces, and to the east by the California state line (California Department of Conservation 2002).

The Project is located east of the San Andreas Fault, an area of southern California that, in contrast to the area west of the fault, has not moved significantly in the past 55 million years (Engelbreton, et al. 1985). However, despite the lack of movement, the sedimentary deposits in the area have been significantly affected by the action along the San Andreas Fault in the past 10 million years. Prior to approximately 10 million years ago, the sedimentary deposits were dominated by fluvial deposition from southward-flowing rivers sourced in the Mojave Desert (Woodburne and Golz 1972, Woodburne 1975, Foster 1980). Starting 10 million years ago, the creation of the ancestral Transverse Ranges first blocked the southward flow of rivers from the Mojave Desert (Meisling and Weldon 1989), then created sedimentary basins parallel to the fault (Cox and Hillhouse 2000). The sedimentary basins were then filled with deposits from the south-flowing rivers and newly formed

## DUKE CULTURAL RESOURCES MANAGEMENT

---

north-draining streams and alluvial fans, sourced from the uplifted mountain ranges (Cox and Hillhouse 2000). Locally, this process created the Victorville Basin, the largest drainage basin in the Mojave Desert, which was subsequently filled with deposits from the Mojave River and the Victorville Fan (Cox and Hillhouse 2000). Within the Project area, modern fluvial activity has cut into the deposits younger than 10 million years, exposing sediment from the Victorville Fan and from the ancestral floodplain of the Mojave River (Sibbett 1996;1999, Cox and Tinsley 1999, Dibblee and Minch 2008).

The Project area is underlain by Older surficial sediments from the Pleistocene Epoch (2.5 million years ago to 11,700 years ago). These Older surficial sediments are subdivided into alluvium of poorly-bedded to massive sand, gravel, and cobbles (*Qoa*) in the eastern portion of the Project and terraces composed of poorly bedded gravel, cobbles, and boulders (*Qol*) in the western portion of the Project (Dibblee and Minch 2008).

### ***Old alluvial and fan deposits (Qoa & Qol)***

Quaternary old alluvial and terrace deposits are composed of fine- to medium-grained, moderately consolidated brown sand and gravel of inactive alluvial fans (Hernandez and Tan 2007) from the Pleistocene Epoch (2.5 Ma to 11,700 years ago).

The climate of southern California during the Pleistocene was cooler and moister than the modern Mediterranean climate (Lamb 1989). In contrast to the harsh, cold conditions in high latitudes near the ice sheets, southern California experienced a relatively milder climate during this time (Calder 1983). During this time, the area was inhabited by the familiar Pleistocene or “Ice Age” fauna, such as mammoth, mastodons, horses, camelids, and ground sloths (Stock 2001). Towards the end of the Pleistocene, the Colorado River delta would have started to form a “dam” between the Salton Trough and the Gulf of California, initiating the first iterations of the Lake Cahuilla when the river meandered west and infilled the trough (Waters 1980; 1983).

## **Cultural**

### ***Prehistory***

Among many, Warren and Crabtree (1986) advanced a cultural chronology for the California deserts which employed an ecological approach; it defined five traditions in prehistory:

- I. Lake Mojave (12000–7000 B.P.)
- II. Pinto (7000–4000 B.P.)
- III. Gypsum (4000–1500 B.P.)
- IV. Saratoga Springs (1500–800 B.P.)
- V. Protohistoric/Shoshonean (800–200 B.P.)

Warren and Crabtree (1986) viewed cultural continuity and change in terms of various significant environmental shifts. Warren defined the cultural ecological approach for archaeological research used in the California deserts. Many changes in settlement pattern and subsistence focus are viewed as cultural adaptations to a changing environment. Regardless of either synthesis used to understand cultural change through time, prehistoric occupation of the desert can be understood with the broad time periods, climatic information, and cultural manifestations, discussed below.

### ***Early Holocene (11,600 – 8000 BP)***

Traditional models of the prehistory of California hypothesize that its first inhabitants were the big game hunting Paleoindians who lived at the close of the last ice-age (~11,000 years before present [BP]). As the environment warmed and dried, large Ice Age fauna died out, requiring adaption by groups to survive. In the desert regions of California, The Lake Mojave Period has been associated with dry lakes. Human occupation during that period is considered to be the first well defined within



## DUKE CULTURAL RESOURCES MANAGEMENT

---

the Mojave. Wallace (1955) classified the material culture of this period as consisting mainly of stylized dart points from the Lake Mojave and Silver Lake series, lanceolate projectile points well-crafted bifacial knives, and large domed scrapers.

### *Middle Holocene (8,000 – 4,000 BP)*

In the desert during the middle Holocene, the Pinto Period succeeded the Lake Mojave Period and appears to have been a time of climatic stress, with resultant changes in environment and staple resources, which affected cultural adaptations. As lakes and rivers dried up, plant and animal resources changed. Warren (1984) postulated the populations adjusted to hostile arid conditions by moving to oases in the deserts or to the edges of the desert. This dry period was followed by a moister period in which people returned to the deserts and more plant resources were utilized (Warren 1984). Milling equipment became more prevalent, but similar to the preceding Lake Mojave Period dart points, especially Pinto series points still dominated the material culture. This wet period was followed by another dry spell, which again resulted in decreased desert populations and subsequently led into the Little Pluvial at about 3,950 B.P. (Warren 1984).

### *Late Holocene (4,000 – 250 BP)*

In the southern California desert during the late Holocene, the Late Prehistoric Period began around 1450 B.P., and is marked by the introduction of small projectile points which likely indicate the introduction of the bow and arrow (Warren 1984). Cultural periods assigned to this time frame include the Saratoga Springs Period, which is dominated by the Rose Spring and Eastgate series projectile points, and the Protohistoric Period (B.P. 1300 to historic times), dominated by Cottonwood Triangular and Desert Side notch projectile points. The use of pottery appears in California deserts during the Saratoga Springs Period and continues through the Protohistoric (Warren 1984).

### *Ethnography*

The Project is located in an area that was shared or transitional between several Native American groups at the time of contact with Europeans. Groups that used this area include the Serrano (Vanyume or Desert Serrano), the Kitnemuk, the Kawaiisu, and the Tataviam. These groups are all of Takic family or Numic descent and entered the southern California or the Mojave Desert region roughly 3,500 – 1,500 years BP (Sutton 2009). All of these groups were mobile hunter-gatherers groups with seasonal camps located based on local or regional resources. Due to the distance from the California coast, and the hostility of the desert environments, early European explorers and clergy did not encounter these groups until relatively late in the Spanish Colonial period, typically around 1776.

### *The Serrano (Vanyume or Desert Serrano)*

The Serrano people inhabited the San Gabriel and San Bernardino Mountains, the Mojave Desert in the north and south into the San Bernardino Valley. Serrano is a dialect of the Serran sub-group of the Takic language group (Bean and Smith 1978). Germane to the Project, the Desert Serrano or *Vanyume* lived along the Mojave River corridor and west into the Antelope Valley in the Mojave Desert. The division between the “Mountain Serrano” and the “Desert Serrano” goes back nearly a century to early 20<sup>th</sup> century ethnographies completed by Alfred Kroeber (1925). He defined the peoples living in the Mojave Desert region around the Mojave River as the “Vanyume”, who shared a dialect with other “Serrano” speakers of the region. Bean and Smith (1978) further solidified this division in their definition of the Serrano within the Handbook of North American Indians. The Desert Serrano were known for their unique adaptation to living in the desert conditions year-round with some forays and expeditions to higher altitudes and the Colorado River for different resources and trade goods. They used the Mojave River as a major trade corridor between the Southwest, the Colorado River valley, coastal California, and the San Joaquin Valley (Sutton and Earle 2017).



## DUKE CULTURAL RESOURCES MANAGEMENT

---

The Serrano lived in small villages and hamlets near permanent water sources. The Mountain Serrano lived in villages and hamlets within the Upper Sonoran life-zone (about 3,500 – 6,200 ft. in elevation). Desert Serrano lived in the Mojave Desert, mainly within permanent water sources such as the Mojave River. Sutton and Earle (2017) estimated that the population of Desert Serrano in 1776 to be around 700 people. Villages were usually composed of related family lineages or lineage sets. The Serrano consisted of two patrilineal moieties or clans (Wildcat and Coyote). Clan moiety intermingling was a common occurrence based on economic reciprocity, marriage or ritual. There may be two or more lineage sets in each village, bound by marriage, economic reciprocity or ritual (Bean and Smith 1978).

Structures within the villages were made of thatch of brush or reeds. Villages consisted of dwellings, ramadas, granaries, partially subterranean sweathouses, a ceremonial structure, and a cemetery. The Serrano cremated their dead and completed mourning ceremonies. The leader of the village (*ki·ka?*) lived in the ceremonial structure and maintained ceremonies for each village along with a ceremonial assistant (*paxa·?*). The *ki·ka?* was the spiritual leader for a village and maintained rituals and ceremonies. Unique among Takic speakers, the Serrano would divide control over the sacred space and ceremony between the two major moieties. One moiety would control the position of *ki·ka?* and the ceremonial structure, while the other moiety would control the *paxa·?* and the sacred bundle (*mō·?i*) (Bean and Smith 1978).

The Serrano were hunter-gatherers who exploited a wide variety of environmental zones based on the elevation of their homeland and the seasonality of the resources. Serrano gathered desert plants of the Mojave Desert including Joshua tree flowers, mesquite bean, yucca, cacti, and desert seed plants such as chia. They also gathered higher elevation plants such as pinion nuts and acorns. Hunting was done at all elevations and included a wide variety of large and small game. Food preparation implements included earth ovens, watertight baskets, heated stones, shallow trays, metates, wooden and stone manos, flint knives, stone and bone scrapers, pottery trays and bowls, baskets, and horn and bone spoons and stirrers. The Serrano made baskets, rabbit skin blankets, awls, arrow straighteners, sinew-backed bows, arrows, fire drills, stone pipes, rattles made from turtle shell, tortoise shell, and deer hooves, wood rasps, bone whistles, bull-roarers, flutes, feathered costumes, mats, bags, storage pouches, cordage, and nets (Bean and Smith 1978). Trade with the California coast and the Colorado River occurred regularly. Serrano groups traded mainly mountain resources, such as pinion seeds and yucca to lowland tribes and groups.

### ***Kitanemuk***

The Kitanemuk people inhabited the Tehachapi Mountains, the Antelope Valley, the western Mojave Desert, and the Tejon and Paso Creek drainage systems. Ethnographers in the past have assumed that the Kitanemuk were a northern variation of the Serrano culture (Sutton and Earle 2017). The languages share a common lineage. The Kitanemuk language is a dialect of the Serran language branch of the Takic language family like the Serrano and the Tataviam (King and Blackburn 1978). Like other Takic cultures, the Kitanemuk lived in sedentary villages that straddled two or more environmental biomes that they could exploit for various seasonal resources. Blackburn and Bean (1978) estimated their population to be around 500-1,000 individuals at the time of contact.

Structures within the villages were made of thatch of brush or reeds. Villages consisted of dwellings, ramadas, granaries, partially subterranean sweathouses, a ceremonial structure, and a cemetery. The Kitanemuk lived in permanent winter villages of 50 to 80 people or more. During the late spring, summer, and fall months they dispersed into smaller, highly mobile gathering groups. The Kitanemuk appear to have buried their dead and completed mourning ceremonies, while the other Serrano groups cremated their dead (Blackburn and Bean 1978). Each village was composed of a leader of the village (*kika·y*), a ceremonial manager (*paka?*), two messengers (*wana?ypats*), shamans

## **DUKE** CULTURAL RESOURCES MANAGEMENT

---

(*tsac*) and other ritualists. Unlike other Serran cultures, there was no moiety clan system in Kitanemuk culture.

The Kitanemuk were hunter-gatherers who exploited a wide variety of environmental zones based on the elevation of their homeland and the seasonality of the resources. The Kitanemuk gathered desert plants of the Mojave Desert including Joshua tree flowers, mesquite bean, yucca, cacti, and desert seed plants such as chia. They also gathered higher elevation plants such as pinion nuts and acorns. Hunting was done at all elevations and included a wide variety of large and small game. Like the Serrano, the Kitanemuk used similar food preparation implements like earth ovens, watertight baskets, heated stones, shallow trays, metates, and manos. Trade with the California coast, the San Joaquin Valley, and the southern Sierra Nevada Mountains occurred regularly.

### **Kawaiisu**

The Kawaiisu are a group of Numic-family speakers who live in the Tehachapi Mountains north into the southern Sierra Nevada Mountains, and in the western and northern Mojave Desert including the Coso Mountains, the Panamint Valley and the Panamint Range. The Kawaiisu are not thought to be extant today (Zigmond 1986).

The Kawaiisu would overwinter in semi-sedentary camps consisting of a large winter house. This winter house (*tomokahn*) was a circular structure with large forked poles supporting roof brush and thatch and walls of tule or reeds. Other structures are an open air ramada-like structures (*havakahn*), small granaries, and a sweathouse of jacal or earth (*ivikahn*). Temporary structures would be made of brush, and roughly circular. The level of social organization of the Kawaiisu was band-level remaining within familial groups of no more than 10-15 people. There was no name for head person or chief and most organization fell within the family-group dynamic. Zigmond (1986) documented three types of shamanistic beliefs systems the Kawaiisu used: curing shamanism, evil or hexing shamanism, and weather shamanism.

Like other Numic cultures, the Kawaiisu were organized into hunter-gatherer groups who moved seasonally according to available resources. They had a large and complex knowledge of the landscape and resources throughout their territory. Zigmond (1986) recorded that the Kawaiisu identified 233 species of plants for use. Of these plant species, 112 were used for food and beverage, 94 for medicine, 87 for miscellaneous uses, and 27 species for spiritual or religious function. Gathering of food was completed with an array of baskets (seedbeaters, burden baskets, containers, etc.), digging sticks, poles, a brush, and groundstone implements like metates and manos. Bedrock mortars were a common tool for seed and plant production. Hunting was done at all elevations and included a wide variety of large and small game. Traps, nets, and bow and arrow were common ways to procure game.

### **History**

The historic era in California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Coastal California was subsumed under Spanish rule beginning in the 18<sup>th</sup> century. The first Europeans to encounter coastal California were the party of Portuguese explorer Juan Rodriguez Cabrillo, who claimed it for Spain in 1542. The first Europeans in the area were led by Captain Gaspar de Portolá, Spain's first military governor of California in 1769 (Rolle 1963). During the Mission Period, the Los Angeles Basin was serviced by the Mission San Gabriel Archangel, established in 1771. An outpost to the mission, the *San Bernardino de Sena Estancia*, was established in Redlands in 1819. The estancia was the closest church establishment to the Project area. It served to manage cattle grazing and induct Native Americans into the church.

## **DUKE** CULTURAL RESOURCES MANAGEMENT

---

Much of the Mojave Desert was beyond Spanish colonial control, and few ventured into the desert region. The first European to pass through the western Mojave area is thought to be Father Francisco Garcés in 1776. Having become familiar with the area, Garcés acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel (Beck and Haase 1974). This is the first recorded group crossing of the Mojave Desert and, according to Father Garcés' journal, the group rested at the headwaters of the Mojave River.

The Mexican Period (1822-1848) began with Mexican independence from Spain and continued until the end of the Mexican-American War (Starr 2005). The Secularization Act resulted in the transfer, through land grants (called ranchos), of large mission tracts to politically prominent individuals. At that time, cattle ranching was a more substantial business than agricultural activities, and trade in hides and tallow increased during the early portion of this period. Until the Gold Rush of 1849, livestock and horticulture dominated California's economy.

The American Period (1848-present) began with the Treaty of Guadalupe Hidalgo, and in 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by two years of extreme drought, which continued to some extent until 1876, altered ranching forever in the southern California area.

The area of the Town of Apple Valley was historically a very heavily visited location, being a migratory stop along the significant Mojave Indian trail (Hoover et al. 2002). However, the first permanent residences in the area were not established until 1867 with a farm built by Silas Cox (Ingersoll 1904). The first major business in the area was apple orchards that spread in the area in the early 1900s and gave the town its name. The arrival of the Great Depression in the 1930s made irrigation for apple orchards too expensive, and many of the orchards were subsequently converted into private ranches.

The modern Town of Apple Valley was founded in 1946, when Newton T. Bass and B.J. "Bud" Westlund formed the Apple Valley Ranchos Land Company and marketed the area as a destination resort and quality residential community - "The Golden Land of Apple Valley". The first businesses to market "Apple Valley" were the Apple Valley Inn and Hilltop House, and within ten years of the founding, there were banks, churches and a school, along with a golf course, hospital and 180 businesses. The Town of Apple Valley became official in 1988 when residents voted for incorporation (Town of Apple Valley 2022).

## **METHODS**

### **Paleontological Research**

The Western Science Center (WSC) performed a paleontological records search to locate fossil localities within the Project on July 21, 2022 (Appendix B). In addition, DUKE CRM staff performed a search of the online University of California Museum of Paleontology collections, San Diego Natural History Museum collections, Paleobiology Database, FAUNMAP, and other published literature for nearby (within 3 miles) fossil localities in similar deposits.



## DUKE CULTURAL RESOURCES MANAGEMENT

### Cultural Resources Research

On June 21, 2022 DUKE CRM requested a records search through the South Central Coastal Information Center (SCCIC). The SCCIC, the regional office of the California Historical Resources Information System, is located on California State University, Fullerton. However, due to the backlog caused by Covid protocols, the records search was completed in person by DUKE CRM archaeologist Morgan Bender on August 5, 2022. The records search included a review of all recorded cultural resources within a ½ mile radius of the Project area, as well as a review of known cultural resource reports. In addition, a review was conducted of the Built Environment Resources Directory, which includes the NRHP, CRHR, California Historical Landmarks, and California Points of Historical Interest. DUKE CRM staff reviewed including historic aerials (UCSB 2022) and topographic maps (USGS 2022) as well as local online histories (Town of Apple Valley 2022). The internal archives at DUKE CRM were also inspected for relevant background information.

### Personnel

The project manager and principal investigator for this Project is Brian Glenn. Mr. Glenn meets the professional qualifications of the Secretary of the Interior for prehistoric archaeology; he is also a Registered Professional Archaeologist (RPA #989903) who has worked in all phases of archaeology (archival research, field survey, testing and data recovery excavation, laboratory analysis, construction monitoring) throughout California for more than 35 years. Mr. Glenn holds a Master of Arts (M.A.) degree in Archaeology from the University of California, Los Angeles (Appendix C).

Field investigation was led by Morgan Bender, Archaeologist at DUKE CRM. Ms. Bender is an RPA (#18011), holds a Bachelor of Arts (B.A.) degree Anthropology/ Sociology from Agnes Scott College in Decatur, Georgia, an M.A. degree from California State University, Los Angeles and has five years of experience in California archaeology. Michelle Dominguez and Zachary Duke, field archaeologists, also conducted the field survey.

## RESULTS

### Paleontological Records Search

On June 23, 2022, DUKE CRM requested a paleontological records search from the WSC. The WSC provided the records search results on July 21, 2022. According to the WSC, “[t]he geologic units underlying this project are mapped primarily as Pleistocene alluvial gravel and sand, along with Pleistocene cobble/boulder gravel (Dibblee and Minch, 2008). Pleistocene alluvial units are considered to be of high paleontological sensitivity (Table 1). The Western Science Center does not have localities within the project location or within a one (1) mile radius but does have numerous fossil localities that presented significant paleontological finds within similarly mapped units across Southern California”. Depth of these deposits was not provided by the WSC.

**Table 1. Geologic Units and their Paleontological Potential**

Age	Geologic Unit	Fossils Present <sup>1</sup>	Paleontological Sensitivity
Pleistocene	Older surficial sediments ( <i>Qoa, Qof</i> )	Mammoth, ground sloth, bison, horse	High

<sup>1</sup>Jefferson 1986

### NAHC Sacred Lands File Search

A search of the Sacred Lands File was requested of the NAHC on June 30, 2022 to ascertain the presence of known sacred sites, Native American cultural resources, and/or human remains within the boundaries of the proposed Project. The NAHC response was received August 1, 2022 indicating the presence of tribal resources in proximity to the Project area. The NAHC recommended contacting the

## DUKE CULTURAL RESOURCES MANAGEMENT

Chemehuevi Indian Tribe for more information. The NAHC also supplied a Native American contact list. Contacting Tribes was not in the scope of work for DUKE CRM; therefore, we recommend that the Town contact the Chemehuevi Indian Tribe and other Tribes on the NAHC list included in Appendix D.

### Cultural Resources Records Search

A total of three (3) cultural resource reports were identified within a ½ mile radius of the Project area. None of these searches covered any portion of the Project area. The three (3) cultural resource reports within a ½ -mile radius of the Project area consist of one (1) linear survey for SCE power pole replacements and two (2) predevelopment surveys of adjacent lots (Appendix E).

The results of the records search from the SCCIC indicated that no cultural resources have been previously recorded within the Project area and four (4) recorded cultural resource within a ½ -mile radius of the Project (Table 2). The resources consist of: P36-010505, a house foundation; P36-013227, a can scatter; P36-013226, an historic-era trash scatter; and P36-029051, a one-mile horse track.

**Table 2. Cultural Resources within ½-mile radius of Project**

Resource No.	Resource Type	Description	Eligibility Status	Distance and Direction
P36-010505	Historic	A 1940s homestead house foundation & associated trash dump	Unknown	0.25 miles North
P36-013226	Historic	1950s Historic-era trash scatter	Unknown	0.21 miles East
P36-013227	Historic	1920s Historic-era can scatter	Unknown	0.22 miles East
P36-029051	Historic	A one-mile horse track	6Z-Not Eligible	0.50 miles Northwest

### Additional Research

In addition to the records search at the SCCIC, DUKE CRM conducted a review of on-line historical aerial photographs and historic USGS quad maps utilizing UCSB FrameFinder and USGS Historical Topographic Map Explorer. The *Deep Creek, Calif.* 1:62,500 scale map from 1902 illustrates a road crossing the property. The road runs from the Southern California Railroad and parallels a minor drainage 4.2 miles west of the Project area and continuing to Fifteenmile Point junction approximately 5.5 miles east of the Project area. No buildings or structures are present within the Project area. Traces of the 1902 road are seen on the 1953 aerial as is a structure in the southern third of the Project area (UCSB 2022a). The southern two-thirds of the Project area are planted in what appear to be row crops or fodder. The western half of the northern one-third has been cleared but is not planted. A structure is evident in the eastern half of the northern third of the Project area though this portion has not been graded.

The *Lake Arrowhead, Calif.* 15-minute scale map from 1956 illustrates Deep Creek Drive along the western Project boundary and Del Oro Road along the southern boundary. A nascent Savage Road borders the eastern Project boundary. No road is illustrated along the northern Project boundary. A structure is shown on the 1956 map in the southern third of the Project area with a drive connecting it to Deep Creek Drive. The structure evident on the 1953 aerial in the northern third is not mapped in 1956; both structures are evident on the 1959 aerial (UCSB 2022b). By 1968, the minor structure in the northern third has been removed, though possible holding pens are evident. The structure and surrounding agricultural use continue in the southern two-thirds. The 1971 and 1980 *Apple Valley South* 7.5-minute maps illustrate the southern structure with an additional structure added to the complex.



## DUKE CULTURAL RESOURCES MANAGEMENT

---

### Field Survey

On August 26 2022, Morgan Bender led an intensive pedestrian field survey of the 120-acre Project area. Parallel pedestrian survey transects were spaced no greater than 15 meters apart. Access to the Project was made via Deep Creek Road at the northwest corner of the Project. Ground surface visibility was excellent overall. Specifically, the Project area visibility ranged between 70 and 100 percent. Digital photos were taken to document the Project area and its surroundings (Appendix A. Figures 4 – 11. Project Photographs).

The topography of the Project is relatively flat with a minor two (2) degree slope change to the west. Sediment in the Project area consists of a 10YR 3/4 dark yellowish brown silty clay with fine silts (<.08 mm) to fine clays (<.08mm). The Project area has been disced in the not too distant past and showed only new sprouted vegetation within the Project area. Multiple dirt paths crosscut the Project area but are not historic. The surrounding area is dominated by creosote bush. Aerial imagery (Google Earth 2020) and field inspection documented a cluster of poured concrete foundations where imagery analysis documented circa-1950 complex had been located until at least 1986. No trace was seen of the 1902 road documented from historical maps. No CRHR-eligible / CEQA important cultural resources were observed during the field survey. No paleontological resources were identified as a result of survey.

### IMPACTS ANALYSIS AND RECOMMENDATIONS

This section addresses the Project's potential to impact cultural and paleontological resources. Impacts to cultural resources are generally considered to be direct (e.g. destruction or demolition of a resource) or indirect (e.g. visual, audible, or cumulative changes to the setting). Under CEQA, cultural resources are evaluated for significance and eligibility for the CRHR. If a resource is considered eligible for the CRHR, it is considered a *historical resource* under CEQA. For the purposes of CEQA, impacts are only considered significant for *historical resources*.

Due to their history of producing fossil material, the Older surficial sediments (*Qoa, Qol*) are assigned a high sensitivity. This assignment is consistent with the high sensitivity of the Project area assigned by the Apple Valley General Plan (Exhibit III-A) (Terra Nova 2009). Ground disturbance in the Project will impact these Older surficial sediments and potentially impact paleontological resources. Therefore, significant and unique paleontological resources may be impacted by the project during ground disturbing activities in this area. These impacts would be considered potentially significant. In order to reduce the potential for impacts to paleontological resources to a level that is less than significant under CEQA and the General Plan EIR for the Town of Apple Valley (Terra Nova 2009, p. III-80), paleontological monitoring is recommended during ground disturbance associated with the Project.

**Paleontological Monitoring** – A paleontological monitor shall be present from the outset to observe ground disturbing activities in the Project. The monitor shall work under the direct supervision of a qualified paleontologist (minimum of a Bachelor of Science /B.A. in geology, or related discipline with an emphasis in paleontology and demonstrated experience and competence in paleontological research, fieldwork, reporting, and curation). The monitor shall be a trained paleontological monitor with experience and knowledge of sediments, geologic formations, the identification and treatment of fossil resources.

1. The qualified paleontologist shall be on-site at the pre-construction meeting to discuss monitoring protocols.
2. Paleontological monitoring shall start at full-time. If no paleontological resources are discovered after half of the ground disturbance has occurred, monitoring can be reduced to part-time or spot-checking.

## **DUKE** CULTURAL RESOURCES MANAGEMENT

---

3. The monitor shall be empowered to temporarily halt or redirect grading efforts if paleontological resources are discovered.
4. In the event of a paleontological discovery the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area.
5. In consultation with the qualified paleontologist the monitor shall quickly assess the nature and significance of the find. If the specimen is not significant it shall be quickly removed, and the area cleared.
6. If the discovery is significant the qualified paleontologist shall notify the developer and Town of Apple Valley immediately.
7. In consultation with the applicant and the Town, the qualified paleontologist shall develop a plan of mitigation which will likely include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation of the find in a local qualified repository, and preparation of a report summarizing the find.

Background research and survey did not identify important cultural resources within the Project area. The Project area is considered to have low sensitivity for cultural resources, and it is not likely that cultural resources will be impacted by the Project. DUKE CRM does not recommend any additional work for cultural resources. Project changes may have the potential to disturb sediment that are previously undisturbed and may impact previously unidentified cultural resources.

If the Project description changes additional studies may be warranted. If archaeological resources are discovered during construction, a qualified archaeologist shall be retained to assess the nature and significance of the discovery. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the remains pursuant to State Public Resources Code Section 5097.98. The County Coroner must be notified immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

**REFERENCES**

- Bean, Lowell J., and Charles R. Smith  
1978 Serrano. In *California*, edited by Robert F. Heizer, pp. 570–574. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, DC.
- Blackburn, Thomas C. and Lowell J. Bean  
1978 Kitanmuk. In *California*, edited by Robert F. Heizer, pp. 564–569. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, DC.
- Beck, Warren A., and Ynez D. Haase  
1974 *Historical Atlas of California*. Oklahoma City: University of Oklahoma Press
- Calder, Nigel  
1983 *Timescale*. Viking, New York.
- California Department of Conservation  
2002 California Geomorphic Provinces. *California Geological Survey*, Note 36.
- Cox, B.F., and J.W. Hillhouse  
2000 Pliocene and Pleistocene Evolution of the Mojave River, and associated tectonic development of the Transverse Ranges and Mojave Desert, based on borehole stratigraphy studies near Victorville, California: United States Geological Survey Open-File Report 2000-147: [pubs.usgs.gov/of/2000/0147/report.pdf](https://pubs.usgs.gov/of/2000/0147/report.pdf)
- Cox, B.F., and Tinsley, J.C., III  
1999 Origin of the late Pliocene and Pleistocene Mojave River between Cajon Pass and Barstow, California, in Reynolds, R.E., and Reynolds, J., eds., *Tracks along the Mojave: A field guide from Cajon Pass to the Calico Mountains and Coyote Lake: Redlands, California*, San Bernardino County Museum Association Quarterly, v. 46, no. 3, p. 49–54.
- Dibblee, T.W., and J.A. Minch  
2008 Geologic map of the Lake Arrowhead & Lucerne Valley quadrangles, San Bernardino County, California, Dibblee Foundation Map DF-379, Scale 1:62,500.
- Engelbreton, D. C., Cox, A., and R.G. Gordon  
1985 Relative motions between oceanic and continental plates in the Pacific Basin: *Geological Society of America Special Paper* 206: 1–75.
- Foster, J.H.  
1980 Late Cenozoic tectonic evolution of Cajon Valley, southern California: Ph.D. dissertation, Riverside, University of California, 243 p.
- Google Earth  
2020 Project Aerial Imagery. Accessed September 1, 2022.
- Hernandez, J.L., and S.S. Tan  
2007 Geologic map of the Apple Valley North 7.5' quadrangle, San Bernardino County, California: a digital database, *California Geological Survey*, scale 1:24,000.

## DUKE CULTURAL RESOURCES MANAGEMENT

- Hoover, Mildred B., Hero E. Rensch, Ethel G. Rensch, William N. Abeloe  
 2002 *Historic Spots in California*. 5th edition, revised by Douglas E. Kyle. Stanford University Press, Stanford, California.
- Ingersoll, L.A.  
 1904 *Ingersoll's Century Annals of San Bernardino County 1769-1904*. Los Angeles: L.A. Ingersoll.
- Jefferson, G.T.  
 1986 Fossil vertebrates from late Pleistocene sedimentary deposits in the San Bernardino and Little San Bernardino Mountains, in, Kooser, M. and R.E. Reynolds, eds., *Geology Around the Eastern San Bernardino Mountains*, Publications of the Inland Geological Society 1, Santa Ana, California, p. 77-80.
- King, Charles D. and Thomas C. Blackburn  
 1978 Tataviam. In *California*, edited by R.F. Heizer, pp. 535-537. Handbook of North American Indians, vol. 8, W.C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Kroeber, Alfred L.  
 1925 *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78. Smithsonian Institution, Washington, D.C.
- Lamb, Richard V.  
 1989 The Nonmarine Mollusks of Pit 91, Rancho La Brea, Southern California, and Their Paleoecologic and Biogeographic Implications. Master's thesis. Department of Geology, California State University, Northridge.
- Meisling, K.E., and Weldon, R.J.  
 1989 Late Cenozoic tectonics of the northwestern San Bernardino Mountains, southern California: Geological Society of America Bulletin, v. 101, p. 106-128.
- Rolle, Andrew F.  
 1963 *California, A History*. Crowell.
- Schoenherr, Allan A.  
 1992 *A Natural History of California*. University of California Press, Berkeley and Los Angeles, California.
- Scott, E., and K. Springer  
 2003 CEQA and fossil preservation in southern California: *The Environmental Monitor*, Fall 2003, p. 4-10.
- Sibbett, B.S.  
 1996 Paleo fluvial channels control migration of a hydrocarbon spill on George Air Force Base in the Mojave Desert: Geological Society of America Abstracts with Programs, v. 28, no. 7, p. 393.  
 1999 Pleistocene channels of the Mojave River near Victorville, California, in Reynolds, R.E., and J. Reynolds, eds., *Tracks along the Mojave: A field guide from Cajon Pass to the Calico Mountains and Coyote Lake*: San Bernardino County Museum Association Quarterly, v. 46, no. 3, p. 65-68.



## DUKE CULTURAL RESOURCES MANAGEMENT

---

- Sutton, Mark Q.  
2009 People and Language: Defining the Takic Expansion into Southern California. *Pacific Archaeological Society Quarterly* 41 (2&3):31-93.
- Sutton, Mark Q. and David D. Earle  
2017 The Desert Serrano of the Mojave River. *Pacific Archaeological Society Quarterly* 53 (2&3):1-61.
- Starr, Kevin  
2005 *California A History*. Modern Library, Random House, Inc., New York.
- Stock, Chester  
2001 Rancho La Brea: A Record of Pleistocene Life in California. 7th ed. Natural History Museum of Los Angeles County, Los Angeles.
- Terra Nova Planning & Research, Inc  
2009 Environmental Impact Report (SCH# 2008091077) Apple Valley General Plan and Annexations 2008-001 & 2008-002, prepared for the Town of Apple Valley, August 11.
- Town of Apple Valley  
2022 History of Apple Valley. Electronic document, <https://www.applevalley.org/about-apple-valley/history-of-apple-valley>, accessed September 1, 2022.
- UCSB  
2022a axl-1953b\_28k-160. University of Santa Barbara Library, Aerial Photographs. Electronic document, <https://www.library.ucsb.edu/src/airphotos>, last accessed September 2022.
- 2022b axl-1959\_11w-91. University of Santa Barbara Library, Aerial Photographs. Electronic document, <https://www.library.ucsb.edu/src/airphotos>, last accessed September 2022.
- USGS  
2022 USGS Topographic Map Explorer. Electronic document, <https://disaster-amerigeoss.opendata.arcgis.com/app/esri:usgs-historical-topographic-map-explorer>, last accessed September 2022.
- Wallace, William  
1955 A suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology*, V. 2, pp. 214-230.
- Warren, Claude N.  
1984 The Desert Region. In *California Archaeology* by Michael Moratto, Academic Press.
- Warren, Claude N. and Robert H. Crabtree  
1986 Prehistory of the Southwestern Area. Warren L. D'Azevedo vol. ed. *Handbook of North American Indians, Volume 11: Great Basin*. 183-193. Smithsonian Institution, Washington, D.C.



**DUKE** CULTURAL RESOURCES MANAGEMENT

---

Waters, Michael Richard

- 1980 Lake Cahuilla: Late Quaternary Lacustrine History of the Salton Trough, California. M.S. Thesis, Department of Geosciences, University of Arizona, Tucson.

- 1983 Late Holocene Lacustrine Chronology and Archeology of Ancient Lake Cahuilla, California. *Quaternary Research* 19:373–387.

Woodburne, M.O.

- 1975 Cenozoic stratigraphy of the Transverse Ranges and adjacent areas, southern California: Geological Society of America Special Paper 162, 91 p.

Woodburne M.O., and D.J. Golz

- 1972 Stratigraphy of the Punchbowl Formation, Cajon Valley, southern California: University of California Publications in Geological Sciences, v. 92, 73 p.

Zigmond, Maurice

- 1986 Kawaiisu. In *Great Basin* edited by Warren d'Azevedo, pp. 398-411. In *Handbook of North American Indians*, Vol. 11, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

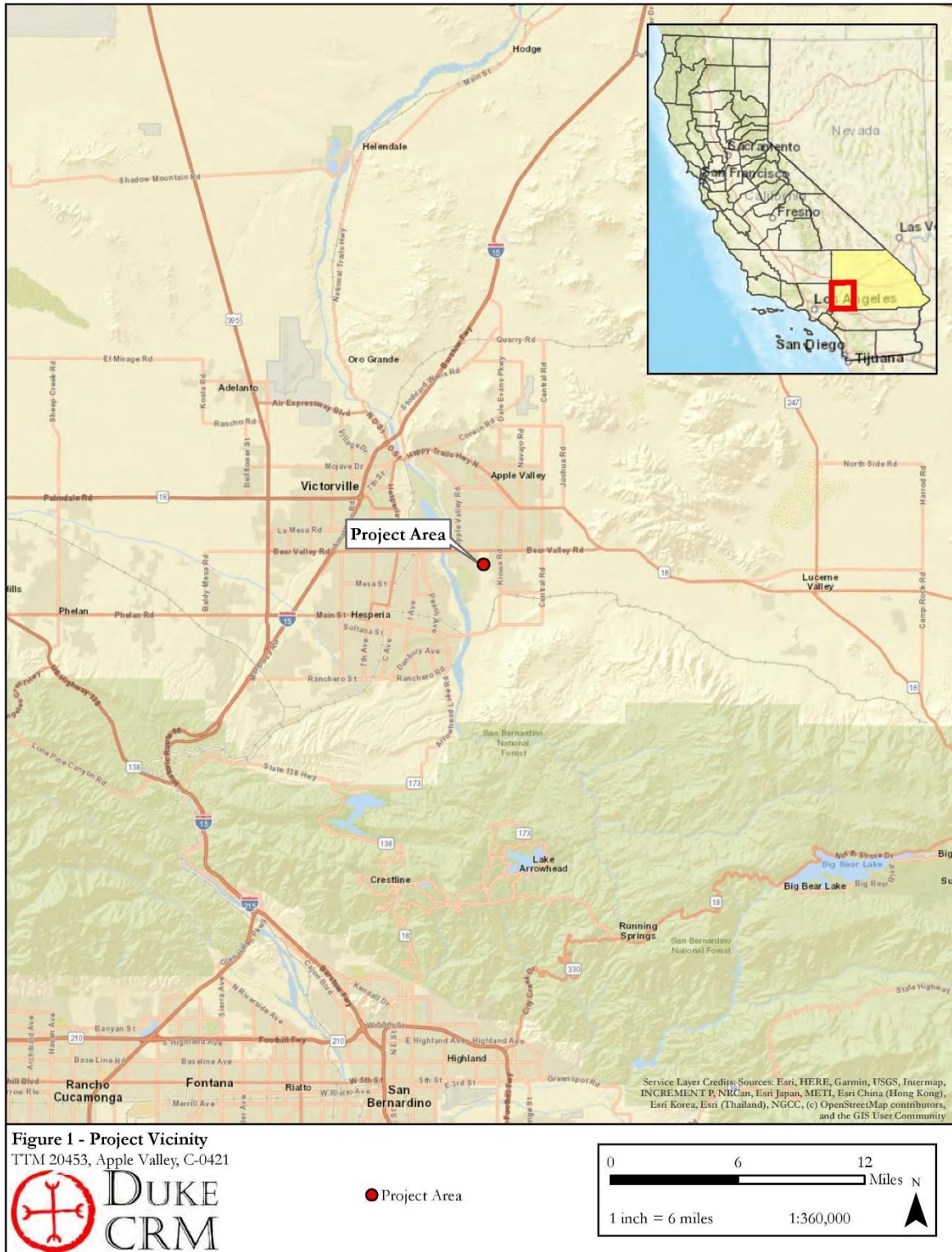
**DUKE** CULTURAL RESOURCES MANAGEMENT

---

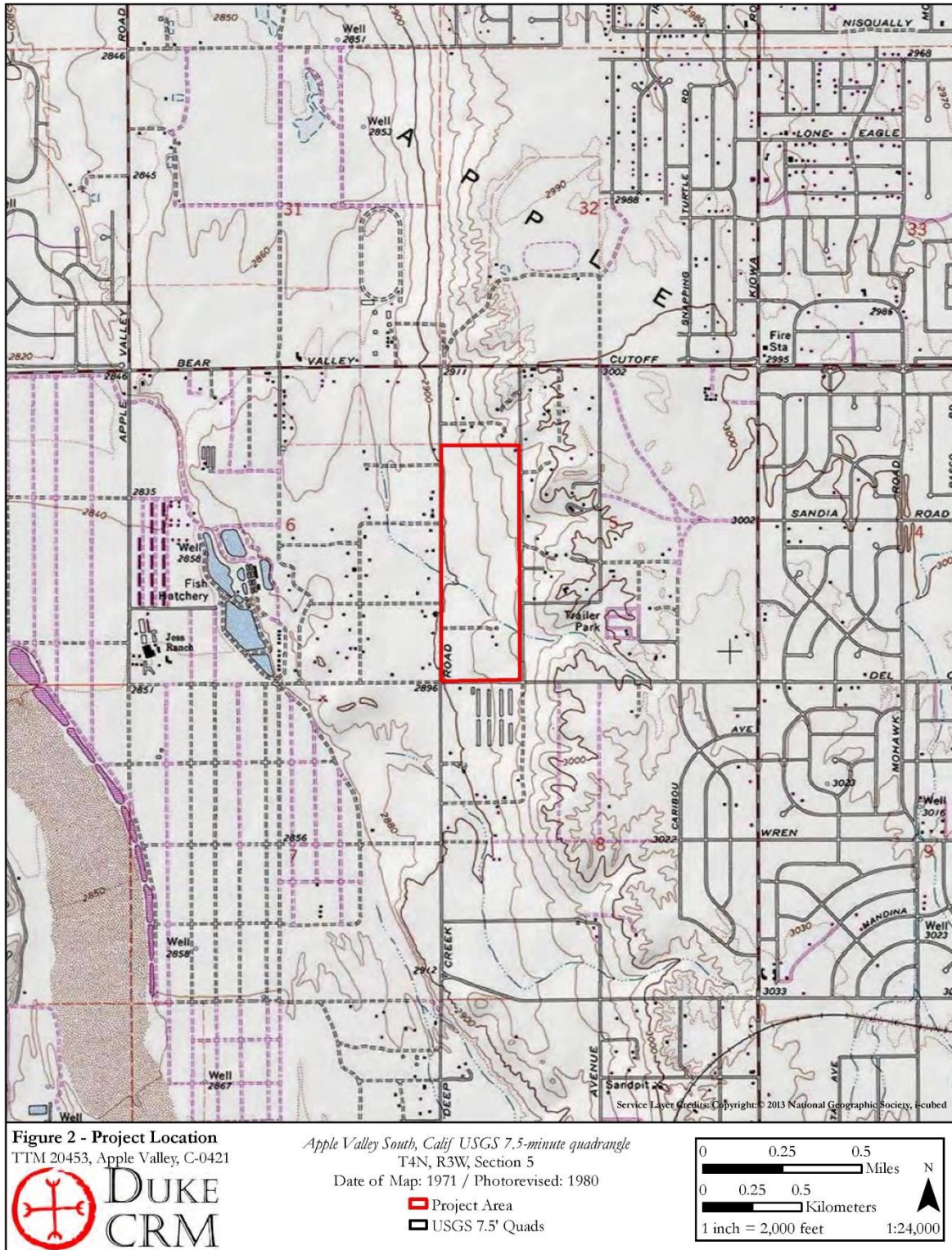
## Appendix A

### Maps & Figures

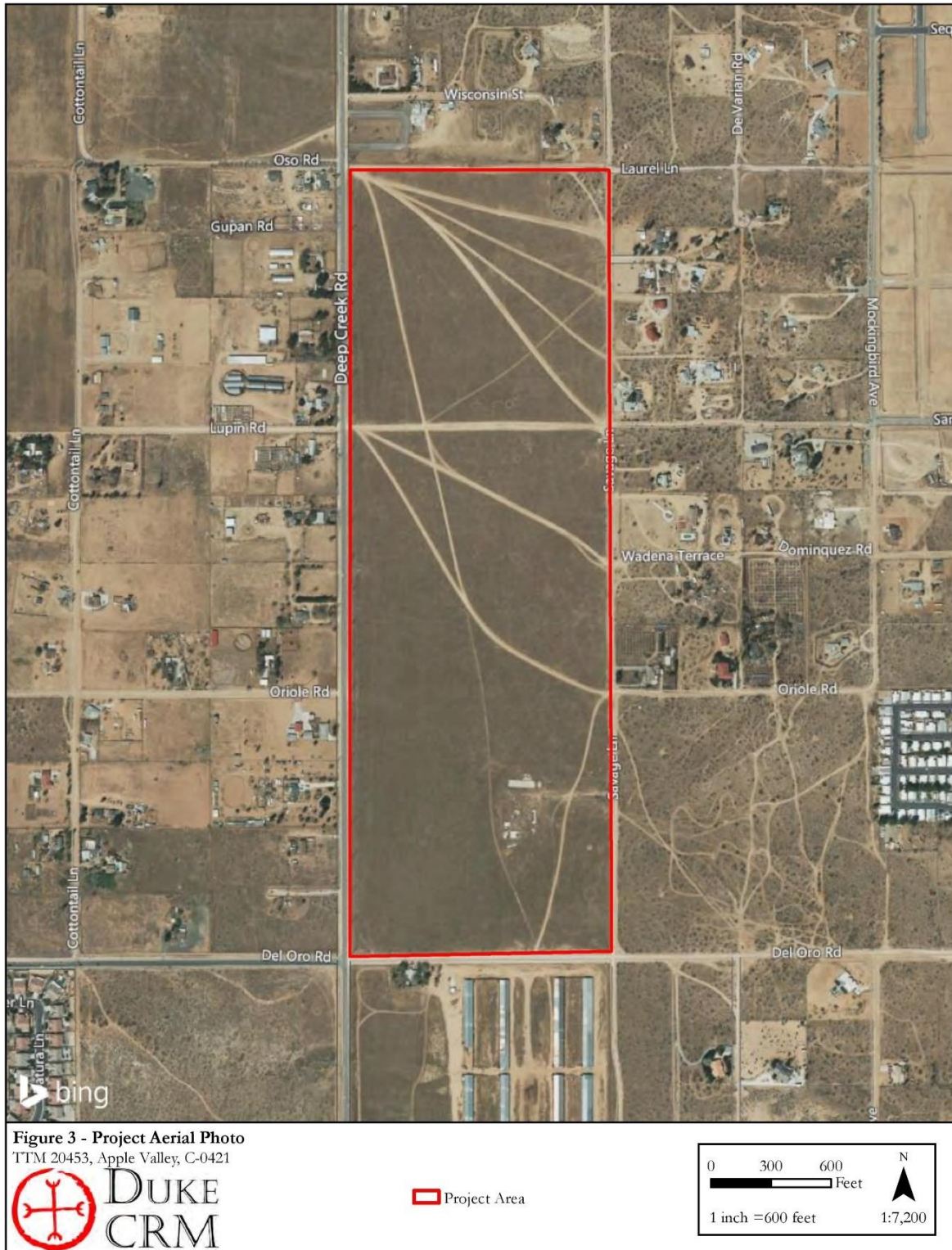
**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**













**DUKE** CULTURAL RESOURCES MANAGEMENT

---



*Figure 4: Overview of Project area from northwest corner of Project boundary, view south.*



*Figure 5: Overview of Project area from northwest corner of Project boundary, view east.*

**DUKE** CULTURAL RESOURCES MANAGEMENT

---



*Figure 6: Overview of Project area from southern edge of Project boundary, view north.*



*Figure 7: Overview of Project area from southern edge of Project boundary, view east.*

**DUKE** CULTURAL RESOURCES MANAGEMENT

---



*Figure 8: Overview of Project area from southern edge of Project boundary, view northeast.*



*Figure 9: Overview of Project area from southern edge of Project boundary, view northwest.*



**DUKE** CULTURAL RESOURCES MANAGEMENT

---



*Figure 10: Overview of concrete foundations in the southeast quarter of the Project, view north.*



*Figure 11: Project area soils.*

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

## Appendix B

### Paleontological Records Search Results





July 21, 2022

Duke CRM  
Brian Glenn  
18 Technology Drive #103  
Irvine, CA 92618

Dear Mr. Glenn,

This letter presents the results of a record search conducted for the 120 Acre Apple Valley Project in the City of Apple Valley, San Bernardino County, California. The project site is located south of Bear Valley Road, north of Del Oro Road, east of Deep Creek Road and west of Savage Lane on Township 4 North, Range 3 West, Section 5 on the *Apple Valley South, CA* USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped primarily as Pleistocene alluvial gravel and sand, along with Pleistocene cobble/boulder gravel (Dibblee 1973, Dibblee and Minch, 2008). Pleistocene alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project location or within a 1 mile radius, but does have numerous fossil localities that presented significant paleontological finds within similarly mapped units across Southern California.

Any fossils recovered from the 120 Acre Apple Valley Project would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive Pleistocene units and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, or would like further information, please feel free to contact me at [bstoneburg@westerncentermuseum.org](mailto:bstoneburg@westerncentermuseum.org).

Sincerely,

A handwritten signature in black ink, appearing to read 'Brittney Stoneburg', written in a cursive style.

Brittney Elizabeth Stoneburg  
Collections Technician

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

## Appendix C

### Resumes



18 Technology Drive, #103  
Irvine, CA 92618  
949-356-6660  
www.dukecrm.com

## Brian Glenn

Principal Investigator/Archaeologist



### Professional Experience: 30 Years

#### Expertise

Cultural Resources Management  
California Prehistory  
Section 106 & CEQA Compliance  
Native American Consultation  
Database (Collections) Management

#### Education

UCLA, M.A. Anthropology, 1991  
UC, Santa Barbara, B.A., Anthropology, 1986  
UC, Santa Barbara, B.A., Geography, 1986  
San Diego Mesa College, Certificate, GIS, 2010

#### Professional Registrations

RPA, No. 989903

#### Professional Memberships

Society for California Archaeology  
Society for American Archaeology  
San Diego County Archaeological Society  
President, 1999

### Summary of Qualifications

Mr. Glenn has worked on hundreds of cultural resources management projects over his 30 year career. This includes projects throughout California in compliance with Section 106 of the National Historic Preservation Act (NHPA) and California Environmental Quality Act (CEQA). He is listed on the RPA and meets the Secretary of Interior Standards for Principal Investigator. His recent experience includes cultural resources surveys and studies for clients such as the Los Angeles Department of Water and Power, Metropolitan Transit Authority, and La Plaza Foundation. His responsibilities have included the preparation of technical reports (assessment, evaluation, and mitigation), cultural resources management plans and EIS/EIR sections, as well as archaeological monitoring. He has training and significant experience in lithic, faunal, typological and spatial analyses, as well as obsidian source and hydration studies. He has identified, evaluated, and investigated historic era resources from a 1792 Spanish gun emplacement on Ballast Point overlook San Diego Bay to late 19th to mid-20th century household and commercial deposits. Mr. Glenn received B.A. degrees in Geography and Anthropology from UC, Santa Barbara and an M.A. in Archaeology from UCLA. During his graduate work at UCLA, he was acting coordinator of the SCCIC (CHRIS).

### Selected Project Experience

#### First Solar Energy Blythe #1, City of Blythe, CA

Mr. Glenn supervised construction monitoring of the 200-acre solar project in Blythe, CA and prepared the Phase IV report for the County of Riverside. A single historic era dump site was located, recorded and reported.

#### Hammock Project, SCE, County of Riverside, CA

Conducted a cultural resources assessment of a two-mile section of transmission line in anticipation of upgrades.

#### Arbor Ridge, Beaumont, CA

Conducted a Phase I cultural resources assessment of a 1,200-acre project area in Beaumont, Riverside County that included historic archives review, pedestrian survey and paleontological literature review for SunCal Development/City of Beaumont.

#### MWD of Southern California Potholing Project. County of Riverside, CA

Conducted a pedestrian survey of six proposed potholing locations directly adjacent to the Colorado River Aqueduct for the Metropolitan Water District of Southern California.

ARCHAEOLOGY

HISTORY

PALEONTOLOGY

**DUKE** CULTURAL RESOURCES MANAGEMENT

---

## Appendix D

### Native American Heritage Commission Sacred Lands File Search



STATE OF CALIFORNIA

Gavin Newsom, Governor

## NATIVE AMERICAN HERITAGE COMMISSION

August 1, 2022

Brian Glenn  
Duke CRM

Via Email to: [BrianGlenn@DukeCRM.com](mailto:BrianGlenn@DukeCRM.com)

CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

SECRETARY  
**Sara Dutschke**  
Miwok

COMMISSIONER  
**William Mungay**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yakayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C.  
Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

**Re: TTM 20453, Apple Valley (C-0421) Project, San Bernardino County**

Dear Mr. Glenn:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Chemehuevi Indian Tribe on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: [Andrew.Green@nahc.ca.gov](mailto:Andrew.Green@nahc.ca.gov).

Sincerely,

Andrew Green  
Cultural Resources Analyst

Attachment



**Native American Heritage Commission  
Native American Contact List  
San Bernardino County  
8/1/2022**

***Chemehuevi Indian Tribe***

Sierra Pencille, Chairperson  
P.O. Box 1976 1990 Palo Verde Drive Chemehuevi  
Havasu Lake, CA, 92363  
Phone: (760) 858 - 4219  
Fax: (760) 858-5400  
chairman@cit-nsn.gov

***Morongo Band of Mission Indians***

Ann Brierty, THPO  
12700 Pumarra Road Cahuilla  
Banning, CA, 92220 Serrano  
Phone: (951) 755 - 5259  
Fax: (951) 572-6004  
abrierty@morongo-nsn.gov

***Morongo Band of Mission Indians***

Robert Martin, Chairperson  
12700 Pumarra Road Cahuilla  
Banning, CA, 92220 Serrano  
Phone: (951) 755 - 5110  
Fax: (951) 755-5177  
abrierty@morongo-nsn.gov

***Quechan Tribe of the Fort Yuma Reservation***

Manfred Scott, Acting Chairman  
Kw'ts'an Cultural Committee  
P.O. Box 1899 Quechan  
Yuma, AZ, 85366  
Phone: (928) 750 - 2516  
scottmanfred@yahoo.com

***Quechan Tribe of the Fort Yuma Reservation***

Jill McCormick, Historic  
Preservation Officer  
P.O. Box 1899 Quechan  
Yuma, AZ, 85366  
Phone: (760) 572 - 2423  
historicpreservation@quechantribe.com

***San Fernando Band of Mission Indians***

Donna Yocum, Chairperson  
P.O. Box 221838 Kitanemuk  
Newhall, CA, 91322 Vanyume  
Phone: (503) 539 - 0933 Tataviam  
Fax: (503) 574-3308  
ddyocum@comcast.net

***San Manuel Band of Mission Indians***

Jessica Mauck, Director of  
Cultural Resources  
26569 Community Center Drive Serrano  
Highland, CA, 92346  
Phone: (909) 864 - 8933  
Jessica.Mauck@sanmanuel-nsn.gov

***Serrano Nation of Mission Indians***

Mark Cochrane, Co-Chairperson  
P. O. Box 343 Serrano  
Patton, CA, 92369  
Phone: (909) 528 - 9032  
serranonation1@gmail.com

***Serrano Nation of Mission Indians***

Wayne Walker, Co-Chairperson  
P. O. Box 343 Serrano  
Patton, CA, 92369  
Phone: (253) 370 - 0167  
serranonation1@gmail.com

***Twenty-Nine Palms Band of Mission Indians***

Darrell Mike, Chairperson  
46-200 Harrison Place Chemehuevi  
Coachella, CA, 92236  
Phone: (760) 863 - 2444  
Fax: (760) 863-2449  
29chairman@29palmsbomi-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed TTM 20453, Apple Valley (C-0421) Project, San Bernardino County.

PROJ-2022-  
004611

08/01/2022 11:41 AM

1 of 2

Native American Heritage Commission  
Native American Contact List  
San Bernardino County  
8/1/2022

***Twenty-Nine Palms Band of  
Mission Indians***

Anthony Madrigal, Tribal Historic  
Preservation Officer  
46-200 Harrison Place Chemehuevi  
Coachella, CA, 92236  
Phone: (760) 775 - 3259  
amadrigal@29palmsbomi-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed TTM 20453, Apple Valley (C-0421) Project, San Bernardino County.

PROJ-2022-  
004611

08/01/2022 11:41 AM

2 of 2

DUKE CULTURAL RESOURCES MANAGEMENT

---

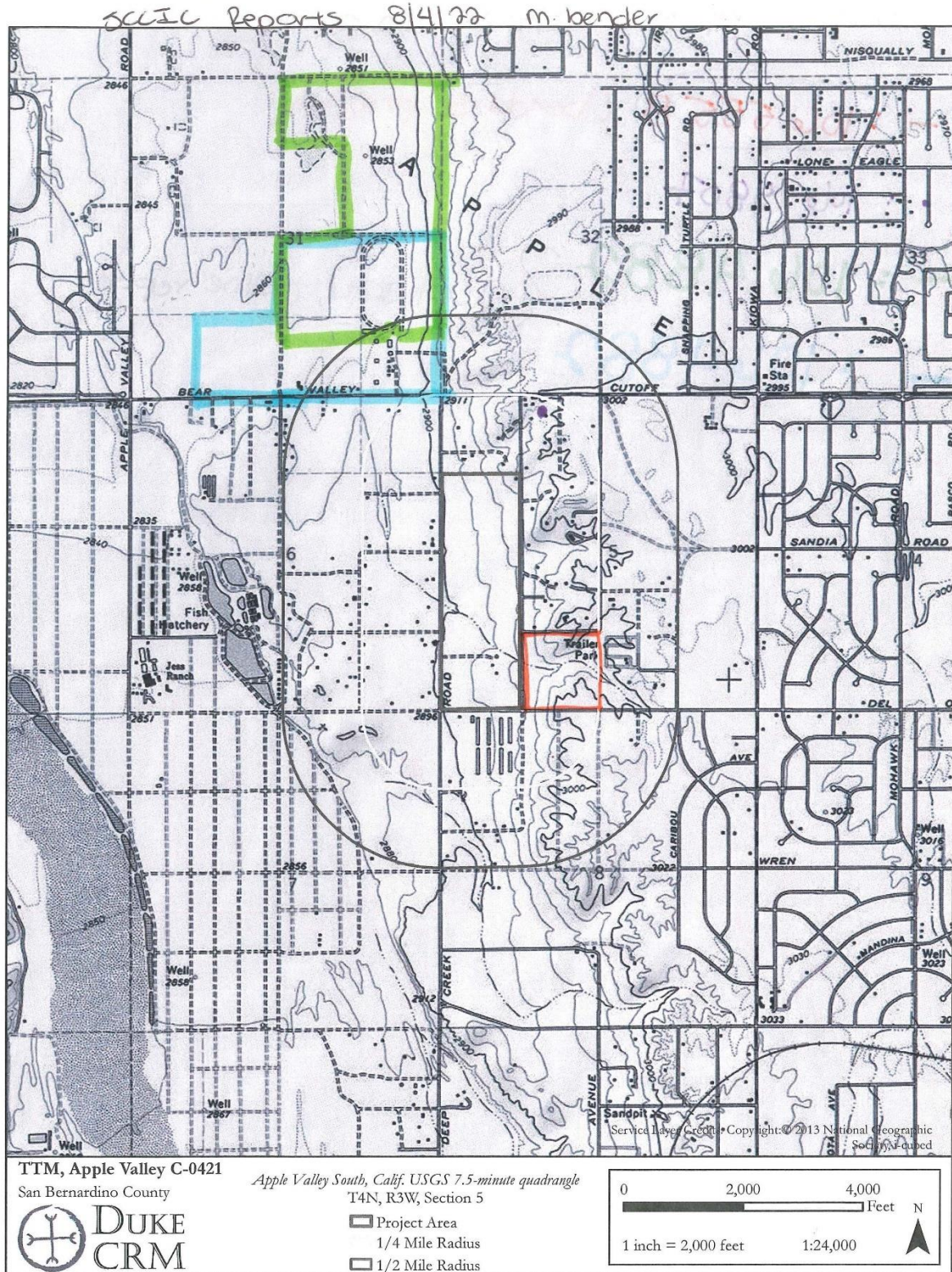
## Appendix E

### CONFIDENTIAL

### Cultural Resources Records Search Results



TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
 99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32



SCCIC Reports 8/4/22 m.bender

- : 106 555 8 (borders project)

• : 106 4807

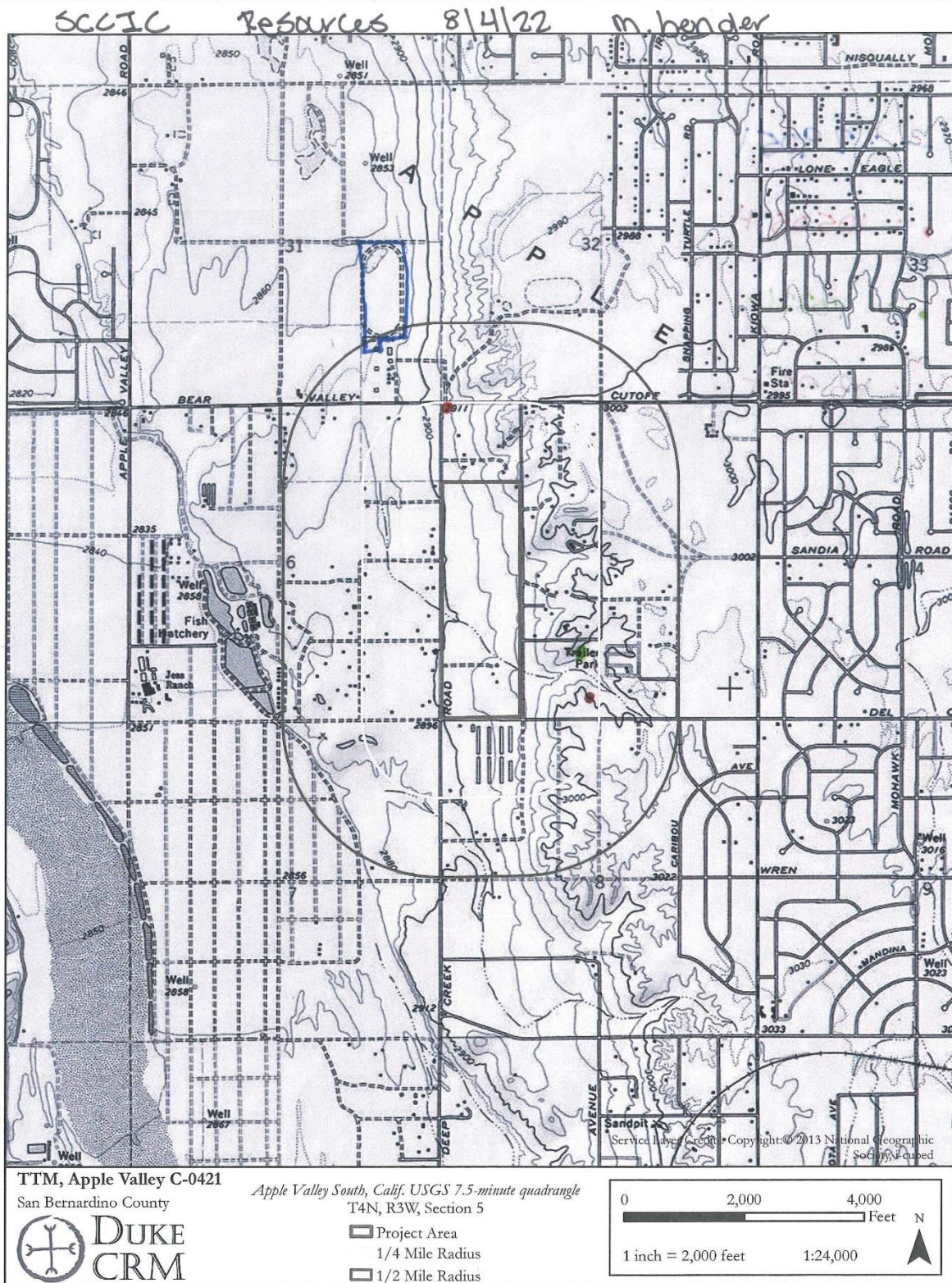
- : 106 4882 } duplicate, same report

- : 106 4882





[illegible]



revised.m 22/4/8 2001248 02000

- : 29051

• : 10505 H

• : 13226

• : 13227





**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary #: 36-010505  
HRI #:  
Trinomial: CA-SBR-10505H  
NRHP Status Code:

Other Listings  
Review Code

Reviewer

Date

Page 1 of 6

\*Resource Name or #: (Assigned by recorder) FS12

P1. Other Identifier: SWCA Project No. 3315-1385

DEEP CREEK SCHOOL

\*P2. Location: ☒ Not for Publication ☐ Unrestricted

\*a. County: San Bernardino and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad: Apple Valley South, CA Date: 1971 (Photorevised 1980)

4N T. 9N; R. 3W; NW¼ of NW¼ of NW¼ of Sec 5; San Bernardino B.M.

c. Address: NA City: NA Zip: NA

d. UTM: (Give more than one for large and/or linear resources) Zone 11; 479468 mE / 3814157 mN

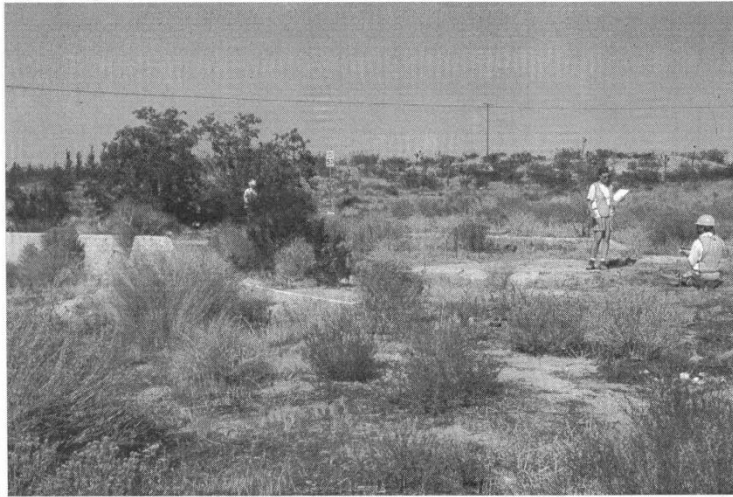
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)  
This 1940s± SCHOOL homestead, on the south side of Bear Valley Rd. approximately 165' east of Deep Creek Rd., was occupied at least as early as WWII and consists of a poured-and-formed stem wall house foundation, associated refuse scatters/dump, and a concrete staircase.

\*P3b. Resource Attributes: (List attributes and codes) (HP2) Single family property, (AH2) House foundation, (AH4) refuse pits

\*P4. Resources Present: ☒ Building ☒ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photo required for buildings, structures, and objects)



P5b. Description of Photo (View, date, accession #) Stemwall foundation and south patio of house, facing northeast. Roll 53, negative 10. October 31, 1999.

\*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both

\*P7. Owner and Address: Municipal

\*P8. Recorded by: (Name, affiliation, and address)  
J. Neves, J. Goodman, M. Boley, P. Gensler. SWCA, Inc., Environmental Consultants. 114 N. San Francisco St., Suite 100, Flagstaff, AZ 86001

\*P9. Date Recorded:  
October 31, 1999

\*P10. Survey Type: (Describe):  
Intensive pedestrian survey for fiber optic cable alignment

\*P11. Report Citation: (Cite survey report and other sources, or enter "none")

Purcell, David E. (editor) 2000. The El Paso to Los Angeles Fiber Optic Cable Project: Cultural Resources Survey of the California Segment, Riverside, San Bernardino, and Los Angeles Counties. Report 4 of 4. SWCA, Inc., Environmental Consultants, Flagstaff.

\*Attachments: ☐ NONE ☒ Location Map ☒ Sketch Map ☐ Other (List):

☒ Continuation Sheet ☐ Building, Structure, and Object Record ☒ Archaeological Record

☐ District Record ☐ Rock Art Record ☐ Linear Feature Record ☐ Artifact Record ☐ Milling Station Record ☐ Photograph Record

DPR 523A (1/95)

\*Required information

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**ARCHAEOLOGICAL SITE RECORD**

Primary #: P36-010505  
Trinomial: Sp2-10505-H

Page 2 of 6

Resource Name or #: (Assigned by recorder): FS12

- \*A1. Dimensions: a. Length: 64 m E-W x b. Width: 40 m N-S  
Method of Measurement: ☒ Paced ☐ Taped ☐ Visual estimate ☐ Other:  
Method of Determination: (check any that apply) ☒ Artifacts ☒ Features ☐ Soil ☐ Vegetation ☐ Topography  
☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):  
Reliability of Determination: ☐ High ☒ Medium ☐ Low Explain: Artifacts in the dump area may extend further east, obscured by sand and bushes, or completely buried.  
Limitations (check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined  
☒ Disturbances ☐ Vegetation ☐ Other (Explain): The house has apparently been demolished, as were probably any outbuildings that may have existed.
- A2. Depth: ☐ None ☒ Unknown Method of Determination: Observation only.
- \*A3. Human Remains: ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain):
- \*A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):  
The remains of this ca. 1940s homestead are on the south side of Bear Valley Cutoff / State Route 18 approximately 165' east of Deep Creek Road, in southwestern Apple Valley. Primary features at this site include a long stem-wall foundation on the western (downslope) side of the former building (Feature 1), a smaller stem wall segment to the east, several concrete pads in the southern end of the foundation probably for a bathroom and perhaps small kitchen, a broken-up concrete staircase (Feature 2) to the southeast of the foundation, and a dispersed refuse dumping area (Feature 3) to the east. Most of the artifacts in the refuse area date to the 1940s. (Continued on Continuation Sheet)
- \*A5. Cultural Constituents (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): None.
- \*A6. Were Specimens Collected? ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)
- \*A7. Site Condition: ☐ Good ☐ Fair ☒ Poor (Describe disturbances.): Integrity is poor, since the house materials have been either scavenged or demolished and removed, and the refuse pits have possibly been looted.
- \*A8. Nearest Water (Type, distance, and direction.): There may have been a well on the property at one time. An ephemeral drainage is located approximately 600 m to the southwest.
- \*A9. Elevation: 2920' (890 m)
- A10. Environmental Setting: (Describe culturally relevant variables such as vegetation, fauna, soils, geology, land form, slope, aspect, exposure, etc.) Vegetation is creosotebush community. Typical rainfall averages <10 cm per year. Sediments are poorly sorted sand of fine to very coarse grains with many feldspar inclusions. Area is relatively flat. Exposure is open.
- A11. Historical Information: Land patent records may be available.
- \*A12. Age: ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☒ 1914-1945  
☐ Post 1945 ☐ Undetermined (Describe position in regional prehistoric chronology or factual historic dates if known):
- A13. Interpretations: (Discuss data potential, function(s), ethnic affiliation, and other interpretations): This site is interpreted as the remains of a very impacted ca. 1940s family dwelling on the outskirts of Apple Valley. Unlike other recorded homestead sites in the region, this site does not have a cistern, well, or other visible water-holding structure. (Continued on Continuation Sheet)
- A14. Remarks: The site is south of Bear Valley Cutoff. Installation of the fiber-optic cable north of Bear Valley Road, or between the edge of pavement and the northern stem wall of Feature 1, 20 feet from the south edge of Bear Valley Road, will not impact the site.
- A15. References: (Documents, informants, maps, and other references)  
DeBolt, Gerald  
1994 DeBolts Dictionary of American Pottery Marks: Whiteware and Porcelain. Collector Books, Paducah, Kentucky.  
Hull-Walski, Deborah A., and James E. Ayres  
1989 The Historical Archaeology of Dam Construction Camps in Central Arizona, Volume3: Laboratory Methods and Data Computerization. Dames and Moore, Phoenix.  
Periodical Publishers Association  
1934 Trade-marks. PPA, New York.  
Toulouse, Julian H.  
1982 Bottle Makers and Their Marks. Thomas Nelson, Inc., Nashville.
- A16. Photographs: (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
- \*A17. Form Prepared by: J. Neves, J. Goodman, M. Boley, P. Gensler Date: October 31, 1999  
Affiliation and Address: SWCA, Inc., Environmental Consultants, 114 N. San Francisco St., Suite 100, Flagstaff, AZ 86001

DPR 523C (1/95)

\*Required information



**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**CONTINUATION SHEET**

Primary #: P36-010505  
HRS#:  
Trinomial: S82-10505H

Page 3 of 6

Resource Name or #: (Assigned by recorder): FS12

Recorded by: J. Neves, J. Goodman, M. Boley, P. Gensler

Date: October 31, 1999

■ Continuation □ Update

(Continued from A4)

The house foundation (Feature 1) stem-wall segments were constructed from poured-and-formed concrete using local sand and gravel. There are not any bolts in the top of the stem wall for anchoring a bottom plate, which is unusual. Two small concentrations of orange brick fragments (~20 brick fragments in each), close to the southwestern and northeastern corners of the foundation, may be the remains of bricks that were scavenged from the walls of this former building. The concrete of the stem wall is in the process of decaying perhaps because a light cement mixture was used with the sand and gravel rather than because of its age. The actual size of the building that rested on this foundation is somewhat problematic because the stem wall was constructed in various segments, and a northern segment of the long western stem wall extends beyond the general building stem-wall configuration; in general, however, it appears that the house may have measured approximately 70' x 35'. The house probably had a raised floor and the walls may have been constructed of orange bricks.

The downhill/western stem wall has a total length of 85' with a break in the northern end of the wall. This downslope wall has an average height of 9" and a thickness of 6-1/2". The southern wall, with a length of approximately 35' and three exterior concrete pads, gradually decreases in height from 9" on the west end/corner to just above the ground level on the east end. Three concrete pads are at the southern end and outside of the foundation; the most western pad many have supported a bathroom (added later?) with plumbing, the central pad was the foundation for the concrete steps (removed to the southeast), and the eastern pad may have been a small kitchen or washing room. Measurements of these pads can be determined from the plan map. The "bathroom pad" in the southwest corner has 3 cut-off 3/4"-diameter water pipes and 2 cut-off 4"-diameter drain pipes projecting from the pad. The eastern pad has 2 cut-off 3/4"-diameter water pipes and 2 cut-off 4"-diameter pipes.

The eastern stem wall has a length of 45' and stands several inches above the current ground surface. On the exterior southeastern area of the wall is a linear concrete slab that may have been used as a patio or perhaps was simply a small paved walkway. This pad is now mostly obscured with sand and shrubs. Close to the southwest and northeast corners of the foundation are small scatters of broken red bricks and concrete (< 20 bricks per scatter). The heavily constructed concrete entrance steps (Feature 2), with five steps, is now lying on its side approximately 45' southeast of the southeastern foundation corner. Many intrusive glass bottle fragments are around the steps.

Approximately 100' east of the building foundation is where the occupants of this site dumped their trash (Feature 3). Partially obscured by sand and bushes, the amorphous-shaped dump currently has three large pits in the center if it that probably were made by bottle collectors. In and around this dumping area are numerous smaller pits that may represent a combination of bottle-collector holes and small refuse-dumping pits (areas perhaps where ashes and foul-smelling refuse was buried). To the west of the main dump are many small bottle-collector's "prospecting" shovel holes.

The refuse in the dumping area is common domestic household trash dating primarily to the 1940s. A lot of ash and charcoal is dispersed among the glass, ceramics, and other materials. Many of the glass jars and bottles were manufactured by various firms that were in operation during the 1940s; many specimens were manufactured by the Owens Illinois Glass Company (1919-1954) that dated to 1945, the Glass Containers, Incorporated with the overlapping "GC" basemark used from 1945 to 1971 +, the Latchford-Marble Glass Company with the encircled and overlapping "LM" basemark used from 1939 to 1957, and the Lummi Glass Co. (1940-1955 (Toulouse 1971:335)) with the basemark of the overlapping "LM" inside of a keystone symbol, and the Hazel-Atlas Glass Company with the smaller letter "A" inside of the legs of the larger "H" (1920-1964). A number of clear rectangular bottles manufactured in 1945 were made by the Armstrong Cork Company, Glass Division. Numerous milkglass "Jergens" lotion bottle fragments and cobalt-blue "POND'S" coldcream jars are in the dump, suggesting that a woman resided at the site. Jergens Lotion, introduced in 1922, was initially manufactured by the Andrew Jergens Company. Pond's cold cream dates to around 1913 and was initially manufactured by the Pond's Extract Company.

Other notable glass specimens in the dump include fragments of many half-pint clear milk bottles. Several of these milk bottles, dating to the Second World War, have red applied-color labels with a design of a farmer holding a bundle of grain inside of two large letter "Vs" (for victory?) over the words "AMERICA HAS A JOB TO DO". The reverse side of this bottle has "BUY LOCAL MILK / RIVERSIDE / SAN BERNARDINO COUNTIES DAIRIES / THE DAIRY INDUSTRY IS ENDEAVORING TO CONSERVE AVAILABLE MATERIALS / PLEASE RETURN WHEN EMPTY / DO NOT LOOSE OR DESTROY THIS BOTTLE (followed by three stars). Around the heel of this bottle was "REG CAL SEALED UGP HALF PINT". One broken milk bottle has a light amethyst hue. Numerous thin lamp globe fragments were also noted.

Many fragments of various ceramic tableware items are in the dump, including numerous porcelain plate sherds with gold-leaf rim bands, plain earthenware sherds manufactured by the Knowles, Taylor and Knowles Company with the hallmark "K. T. & K." written over "S-V / CHINA" dating from 1929, fragments of a porcelain bowl with "MADE IN JAPAN", a number of sherds from cups and saucers with floral transfer designs, and fragments of a creamware coffee cup with cobalt-blue body corrugations. Fragments of a small, exterior hand-painted figural dog (terrier?) were also recorded.

Many cylindrical single-serving sanitary food cans, meat cans, hole-in-top evaporated milk cans, and score-strip coffee cans are spread across the dump. Also in the dump are numerous hardware items and older automobile parts. One ceiling light fixture has a porcelain cleat rosette stamped with "BRYANT JUNIOR / SAMP 25 OV". A number of vinyl record fragments were also noted.

DPR 523L (1/95)

\*Required information

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**CONTINUATION SHEET**

Primary #: *P36-010855*  
HRS#:  
Trinomial: *SR-10605H*

Page 4 of 6

Resource Name or #: (Assigned by recorder): FS12

Recorded by: J. Neves, J. Goodman, M. Boley, P. Gensler

Date: October 31, 1999

☒ Continuation ☐ Update

(Continued from A13)

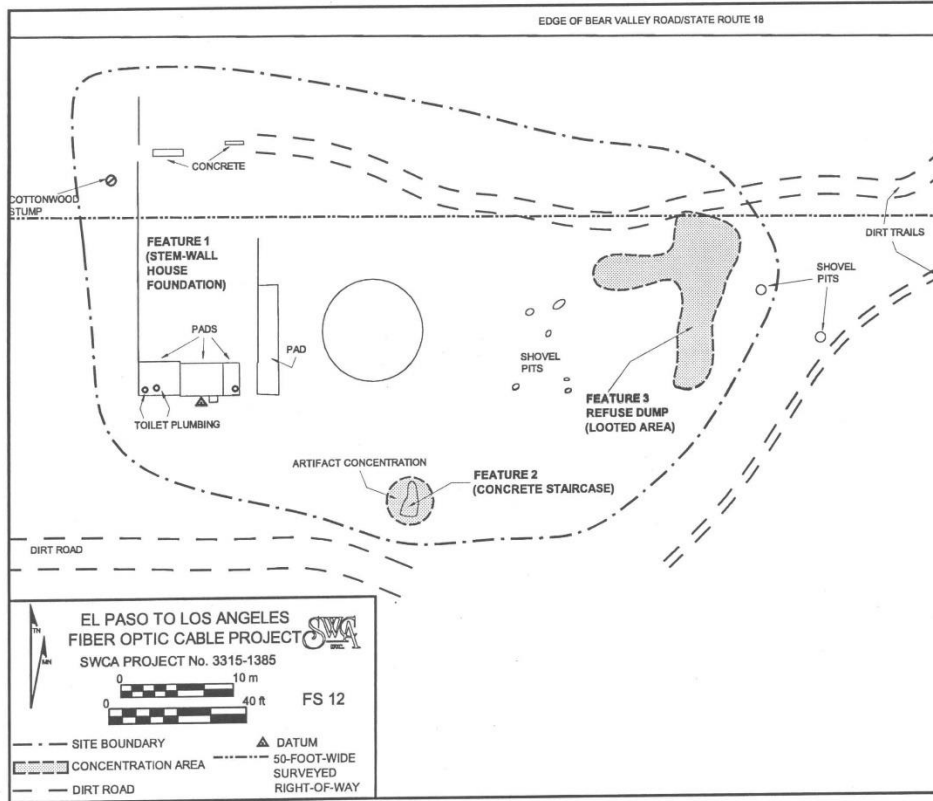
Other than the building foundation and a few ancillary building components, including piles of broken orange bricks, few construction materials remain around the foundation to indicate the type of building that stood on it. This site therefore has very poor integrity. A considerable amount of bottle prospecting has occurred at this site. Although many artifacts remain buried under soil and plants, analysis of the surface artifacts has thoroughly documented the artifact assemblage; additional archaeological investigation is unlikely to yield any additional significant information about the site occupation. The site is not known to be associated with an important historic event or person who played an important role in the history of the region. The site is therefore is not recommended as eligible to the National Register of Historic Places under any of the four criterion identified in 36 CFR 60.4.

DPR 523B (1/95)

\*Required information

DPR 523K (1/95)

\*Required Information



Page 5 of 6  
 Drawn By: M. Boley  
 Date: October 31, 1999  
 Resource Name or #: (Assigned by recorder): FS 12

State of California - The Resources Agency  
 DEPARTMENT OF PARKS AND RECREATION  
 SKETCH MAP  
 Primary #: 010505  
 Trimonial: 010505H





**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California—The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

7/62

Primary # SL-013 226  
HRI # \_\_\_\_\_  
Trinomial SLR-12504 N  
NRHP Status Code \_\_\_\_\_

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Page 1 of 4 \*Resource Name or # (Assigned by recorder) CRM TECH 2035-1H

P1. Other Identifier: \_\_\_\_\_  
\*P2. Location: ☒ Not for Publication ☐ Unrestricted \*a. County San Bernardino  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)  
\*b. USGS 7.5' Quad Apple Valley South, Calif. Date 1971, photorevised 1978  
T 4N; R 3W; NE 1/4 of NE 1/4 of SE 1/4 of SW 1/4 of Sec 5; S.B. B.M.  
Elevation: Approximately 2970 feet above mean sea level  
c. Address N/A City \_\_\_\_\_ Zip \_\_\_\_\_  
d. UTM: (Give more than one for large and/or linear resources) Zone 11; 480154 mE/ 3812958 mN  
UTM Derivation: USGS Quad ☒ GPS  
e. Other Locational Data: (e.g., parcel #, directions to resource, etc., as appropriate) The site is located at the base of the north-facing slope of a small hill, near an intermittent drainage approximately 400 ft. south of Oriole Road and 250 ft. west of a trailer park.

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The site consists of a small concentration of tin cans and glass scattered over an area measuring approximately 86 ft. N/S x 46 ft. E/W. Tobacco tins, solder-dot cans, hole-in-top rectangular meat cans, 1-gallon soup cans, oilcans, porcelain, and aqua, blue, clear, and amethyst-colored glass shards were recorded. The site appears to have served as a small trash dump during the 1950s or 60s.

\*P3b. Resource Attributes: (List attributes and codes) AH4—Trash scatter

\*P4. Resources Present: ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District  
☐ Isolate ☐ Other

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo: (view, date, accession #)

\*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both

\*P7. Owner and Address: Unknown

\*P8. Recorded by: (Name, affiliation, and address) John J. Eddy, CRM TECH, 4472 Orange Street, Riverside, CA 92501

\*P9. Date Recorded: March 12, 2007

\*P10. Survey Type: (Describe) Intensive-level survey for CEQA-compliance purpose

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.") In progress.

\*Attachments: ☐ None ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record  
☒ Archaeological Record ☐ District Record ☐ Linear Resource Record ☐ Milling Station Record ☐ Rock Art Record  
☐ Artifact Record ☐ Photograph Record ☐ Other (List): \_\_\_\_\_

DPR 523A (1/95)

\*Required information



**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California--The Resources Agency DEPARTMENT OF PARKS AND RECREATION	Primary # _____ Trinomial _____
<b>ARCHAEOLOGICAL SITE RECORD</b>	
Page <u>2</u> of <u>4</u> *Resource Name or # (Assigned by recorder) <u>CRM TECH 2035-1H</u>	

A1. Dimensions: a. Length 86 ft. (E-W) b. Width 46 ft. (N-S)  
Method of Measurement: Paced ☒ Taped ☐ Visual estimate ☐ Other: \_\_\_\_\_  
Method of Determination (Check any that apply.): ☒ Artifacts ☐ Features ☐ Soil ☐ Vegetation  
☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain): \_\_\_\_\_  
Reliability of Determination: ☐ High ☒ Medium ☐ Low Explain: \_\_\_\_\_  
Limitations (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined  
☐ Disturbances ☐ Vegetation ☐ Other (Explain): \_\_\_\_\_  
Depth: \_\_\_\_\_ None ☒ Unknown Method of Determination: \_\_\_\_\_  
\*A3. Human Remains: ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain): \_\_\_\_\_  
\*A4. Features: (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.) None.  
  
\*A5. Cultural Constituents: (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.) Forty-plus tin cans that included tobacco tins, solder-dot cans, hole-in-top rectangular meat cans, 1-gallon soup cans, and oilcans were recorded in addition to several pieces of porcelain, and aqua, blue, clear, and amethyst-colored glass.  
  
\*A6. Were Specimens Collected? ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)  
\*A7. Site Condition: ☐ Good ☒ Fair ☐ Poor (Describe disturbances.): \_\_\_\_\_  
  
\*A8. Nearest Water (Type, distance, and direction.): A small intermittent drainage is located approximately 100 ft. south of the site.  
\*A9. Elevation: Approximately 2970 feet above mean sea level  
\*A10. Environmental Setting: (Describe vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The site is saddled between two small hills adjacent to a small intermittent drainage. Sediments consist of coarse-grained fluvial deposits with cobble and rock. Vegetation included mostly creosote bushes and low-lying desert grass.  
  
A11. Historical Information: \_\_\_\_\_  
  
\*A12. Age: ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945  
☒ Post 1945 ☐ Undetermined Describe position in regional prehistoric chronology or factual historic dates if known: \_\_\_\_\_  
  
A13. Interpretations: (Discuss scientific, interpretive, ethnic, and other values of site, if known) \_\_\_\_\_  
  
A14. Remarks: \_\_\_\_\_  
  
A15. References: (Documents, informants, maps, and other references.): See Item P11.  
  
A16. Photographs: (List subjects, direction of view, and accession numbers or attach a Photograph Record.): \_\_\_\_\_  
Original Media/Negatives Kept at: CRM TECH, 4472 Orange Street, Riverside, CA 92501  
  
\*A17. Form Prepared by: John J. Eddy Date: March 29, 2007  
Affiliation and Address: CRM TECH, 4472 Orange Street, Riverside, CA 92501



TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32

State of California--The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION

**SKETCH MAP**

Page 4 of 4

Primary # \_\_\_\_\_

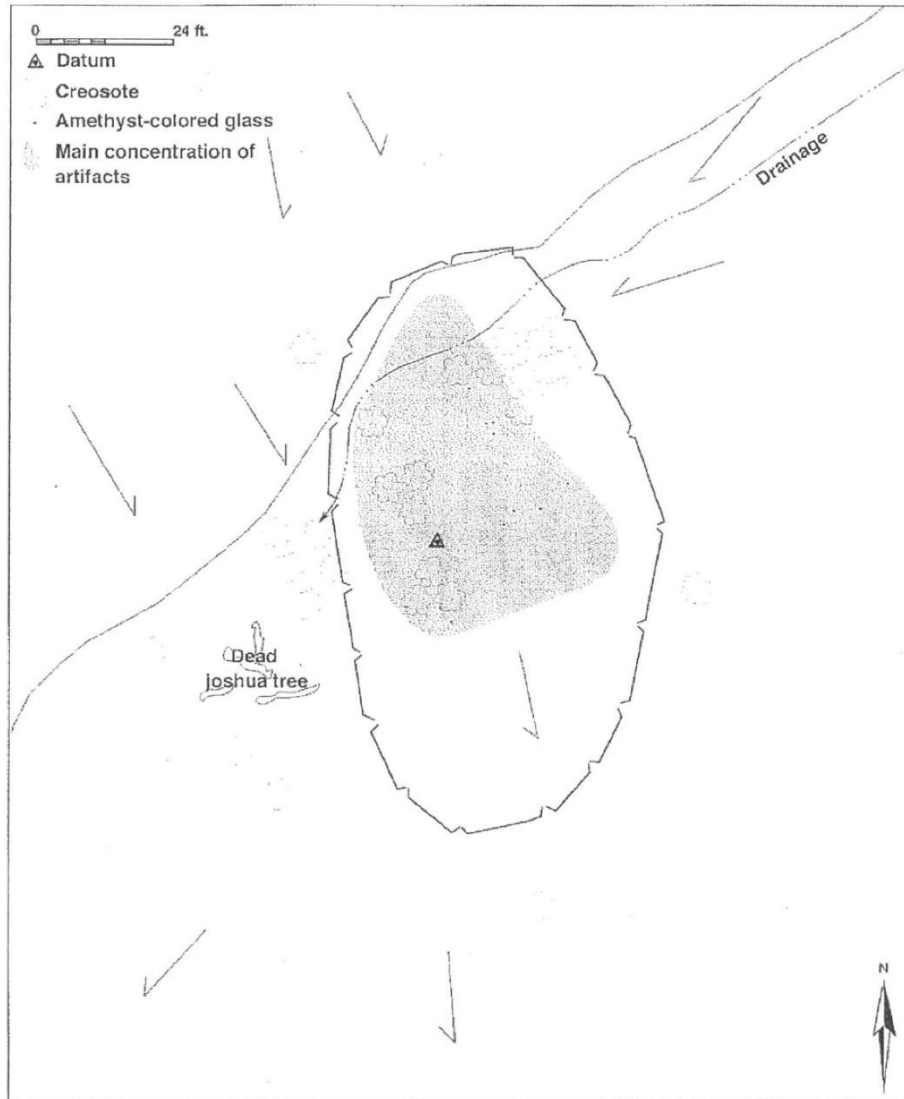
HRI # \_\_\_\_\_

Trinomial \_\_\_\_\_

\*Resource Name or # (Assigned by recorder) CRM TECH 2035-1H

\*Drawn by: John J. Eddy

\*Date: March 12, 2007



DPR 523K (1/95)

\*Required information

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

4107

State of California--The Resources Agency DEPARTMENT OF PARKS AND RECREATION <b>PRIMARY RECORD</b>		Primary # <u>36-613227</u> HRI # _____ Trinomial <u>SBR-12505A</u> NRHP Status Code _____
Other Listings _____ Review Code _____ Reviewer _____ Date _____		*Resource Name or # (Assigned by recorder) <u>CRM TECH 2035-2H</u>

Page 1 of 4

**P1. Other Identifier:** \_\_\_\_\_

**\*P2. Location:** ☒ Not for Publication ☐ Unrestricted **\*a. County** San Bernardino  
 and (P2b and P2c or P2d. Attach a Location Map as necessary.)  
**\*b. USGS 7.5' Quad** Apple Valley South, Calif. **Date** 1971, photorevised 1978  
T 4N; R 3W; NE 1/4 of NE 1/4 of SE 1/4 of SW 1/4 of Sec 5; S.B. B.M.  
**Elevation:** Approximately 3000 feet above mean sea level  
**c. Address** N/A **City** \_\_\_\_\_ **Zip** \_\_\_\_\_  
**d. UTM:** (Give more than one for large and/or linear resources) **Zone** 11; 480104 mE/ 3812735 mN  
**UTM Derivation:** USGS Quad ☒ GPS  
**e. Other Locational Data:** (e.g., parcel #, directions to resource, etc., as appropriate) The site is located on top of a small hill approximately 300 ft. north of Del Oro Road and 1000 ft. east of Savage Lane.

**\*P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The site consists of a small concentration of hole-in-top tin cans scattered over an area measuring approximately 60 ft. N/S x 30 ft. E/W. The site dates to the 1920s or earlier based on manufacturing date of the hole-in-top tin.

**\*P3b. Resource Attributes:** (List attributes and codes) AH4--Trash scatter

**\*P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District  
☐ Isolate ☐ Other

**P5a. Photograph or Drawing** (Photograph required for buildings, structures, and objects.) \_\_\_\_\_

**P5b. Description of Photo:** (view, date, accession #) \_\_\_\_\_

**\*P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both

**\*P7. Owner and Address:** Unknown

**\*P8. Recorded by:** (Name, affiliation, and address) John J. Eddy, CRM TECH, 4472 Orange Street, Riverside, CA 92501

**\*P9. Date Recorded:** March 12, 2007

**\*P10. Survey Type:** (Describe) Intensive-level survey for CEQA-compliance purpose

**\*P11. Report Citation:** (Cite survey report and other sources, or enter "none.") In progress.

**\*Attachments:** ☐ None ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record  
☒ Archaeological Record ☐ District Record ☐ Linear Resource Record ☐ Milling Station Record ☐ Rock Art Record  
☐ Artifact Record ☐ Photograph Record ☐ Other (List): \_\_\_\_\_

DPR 523A (1/95)

\*Required Information



**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

State of California—The Resources Agency DEPARTMENT OF PARKS AND RECREATION	Primary # _____ Trinomial _____
<b>ARCHAEOLOGICAL SITE RECORD</b>	
Page <u>2</u> of <u>xx</u> *Resource Name or # (Assigned by recorder) <u>CRM TECH 2035-2H</u>	

A1. Dimensions: a. Length 60 ft. (E-W) b. Width 30 ft. (N-S)  
Method of Measurement: Paced ☒ Taped ☐ Visual estimate ☐ Other: \_\_\_\_\_  
Method of Determination (Check any that apply.): ☒ Artifacts ☐ Features ☐ Soil ☐ Vegetation  
Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain): \_\_\_\_\_  
Reliability of Determination: High ☒ Medium ☐ Low ☐ Explain: \_\_\_\_\_  
Limitations (Check any that apply.): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined  
☐ Disturbances ☐ Vegetation ☐ Other (Explain): \_\_\_\_\_  
Depth: \_\_\_\_\_ ☐ None ☒ Unknown Method of Determination: \_\_\_\_\_  
\*A3. Human Remains: ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain): \_\_\_\_\_  
\*A4. Features: (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.) None.  
  
\*A5. Cultural Constituents: (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.) Ten to twenty hole-in-top tin cans.  
  
\*A6. Were Specimens Collected? ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)  
\*A7. Site Condition: ☐ Good ☒ Fair ☐ Poor (Describe disturbances.): \_\_\_\_\_  
  
\*A8. Nearest Water (Type, distance, and direction.): A small intermittent drainage is located approximately 500 ft. north of the site.  
\*A9. Elevation: Approximately 3000 feet above mean sea level  
\*A10. Environmental Setting: (Describe vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The site is situated atop a small hill. Sediments consist of fine to coarse grain deposits with cobble and rock. Vegetation included mostly creosote bushes and low-lying desert grass.  
  
A11. Historical Information: \_\_\_\_\_  
  
\*A12. Age: ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945  
☐ Post 1945 ☒ Undetermined Describe position in regional prehistoric chronology or factual historic dates if known: \_\_\_\_\_  
  
A13. Interpretations: (Discuss scientific, interpretive, ethnic, and other values of site, if known) \_\_\_\_\_  
  
A14. Remarks: \_\_\_\_\_  
  
A15. References: (Documents, informants, maps, and other references.): See Item P11.  
  
A16. Photographs: (List subjects, direction of view, and accession numbers or attach a Photograph Record.): \_\_\_\_\_  
Original Media/Negatives Kept at: CRM TECH, 4472 Orange Street, Riverside, CA 92501  
  
\*A17. Form Prepared by: John J. Eddy Date: March 29, 2007  
Affiliation and Address: CRM TECH, 4472 Orange Street, Riverside, CA 92501



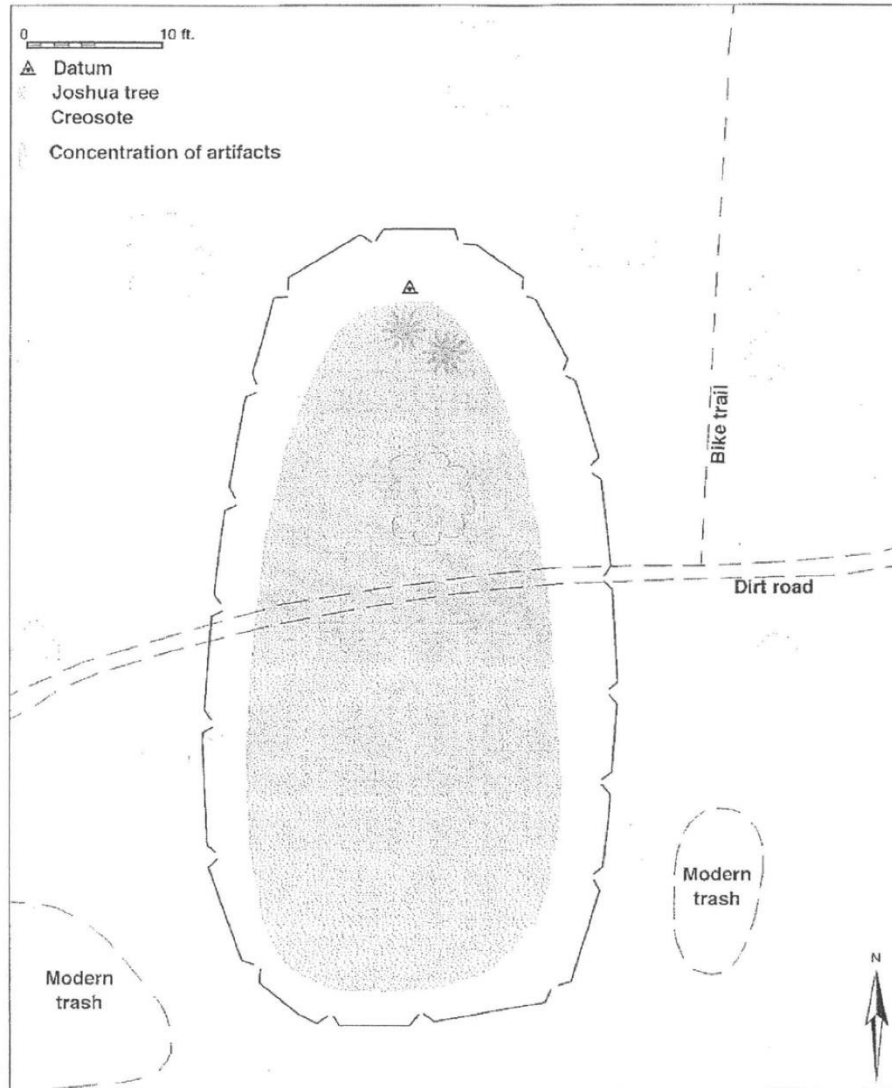


TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32

State of California--The Resources Agency DEPARTMENT OF PARKS AND RECREATION <b>SKETCH MAP</b>	Primary # _____ HRI # _____ Trinomial _____
Page <u>4</u> of <u>4</u>	*Resource Name or # (Assigned by recorder) <u>CRM TECH 2035-2H</u>

\*Drawn by: John J. Eddy

\*Date: March 12, 2007



DPR 523K (1/95)

\*Required information

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

36-029051

36-029051

<b>State of California — The Resources Agency</b> <b>DEPARTMENT OF PARKS AND RECREATION</b> <b>PRIMARY RECORD</b>		<b>Primary #</b> <b>HRI #</b> <b>Trinomial</b> <b>NRHP Status Code</b>
<b>Other Listings</b> <b>Review Code</b>	<b>Reviewer</b>	<b>Date</b>

Page 1 of 2 \*Resource Name or #: Viking Ranch

**\*P1. Other Identifier:**  
**\*P2. Location:** ☐ Not for Publication ☒ Unrestricted **\*a. County:** San Bernardino  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)  
**\*b. USGS 7.5' Quad:** Apple Valley South, California **Date:** 1980 **T 5N; R 3W; Section 31; SBBM**  
**c. Address:** N/A **City:** **Zip:**  
**d. UTM's at NE Corner of Stable:** 479021mE/3814566mN (NAD 27), **Zone:** 11S **Elevation:** 2868' AMSL  
**e. Other Locational Data:** Property is accessed from Deep Creek Road, south of Sitting Bull Road, in the Town of Apple Valley, San Bernardino County.

**\*P3a. Description:** (Describe resource and its major elements: design, materials, condition, alterations, size, setting, boundaries)  
The resource comprises a one-mile horse track and the foundation remnants of a stable, both associated with former professional horse-breeding and training operations run by Ivan Ashment between 1968 and 1981, and by S. David Plummer (of Viking Ranch) between 1982 and 1992. The track is composed of local sediments and encompasses an unimproved infield. Only concrete footings remain in place from the stable. Both were constructed in 1968 (USDA 1968). No other cultural resources were identified. Although both Mr. Ashment and Mr. Plummer are highly regarded in the industry, both individuals' noteworthy accomplishments occurred subsequent to the historic-era (i.e. more recently than 45 years ago), and as such are generally not considered historic in nature. And while particularly momentous events (see California Register Criterion 1) and important persons (Criterion 2) occasionally transcend the usual 45-year age requirement, the individuals and events associated with the Viking Ranch are industry-specific and do not merit such transcendence. The track and stable foundation are 45 years old but lack characteristics sufficient for California Register Criterion 3, and they have not yielded or indicated the potential to yield important information (Criterion 4). Finally, although the track and stable foundation do retain a measure of locational integrity, the abandonment of all activities associated with their use and the demolition of the stable combine to negate any integrity of setting, design, materials, workmanship, feeling, and association. The historic-period horse track and former stable associated with the Viking Ranch, therefore are not considered eligible for listing in the California Register.

**Reference:** United States Department of Agriculture. *Aerial Photos of Apple Valley*. Electronic Document: [historicaerials.com](http://historicaerials.com). Accessed 11/4/13.

**\*P3b. Resource Attributes:** HP29. Landscape Architecture. AH2. Foundations/Structure Pads

**\*P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☒ Other

**P5a. Photo or Drawing** (Photo required for buildings, structures, and objects.)



**P5b. Description of Photo:** (View, date, accession #) Photo 1: Track Overview (WSW View)

**\*P6. Date Constructed** ☒ Historic  
1968 ☐ Prehistoric ☐ Both

**\*P7. Owner and Address:**  
United Engineering Group  
3595 Inland Empire Blvd., #2200  
Ontario, California 91764

**\*P8. Recorded by:**  
David Brunzell, M.A., RPA  
BCR Consulting LLC  
1420 Guadalajara Place  
Claremont, California 91711

**\*P9.** 10/7/13

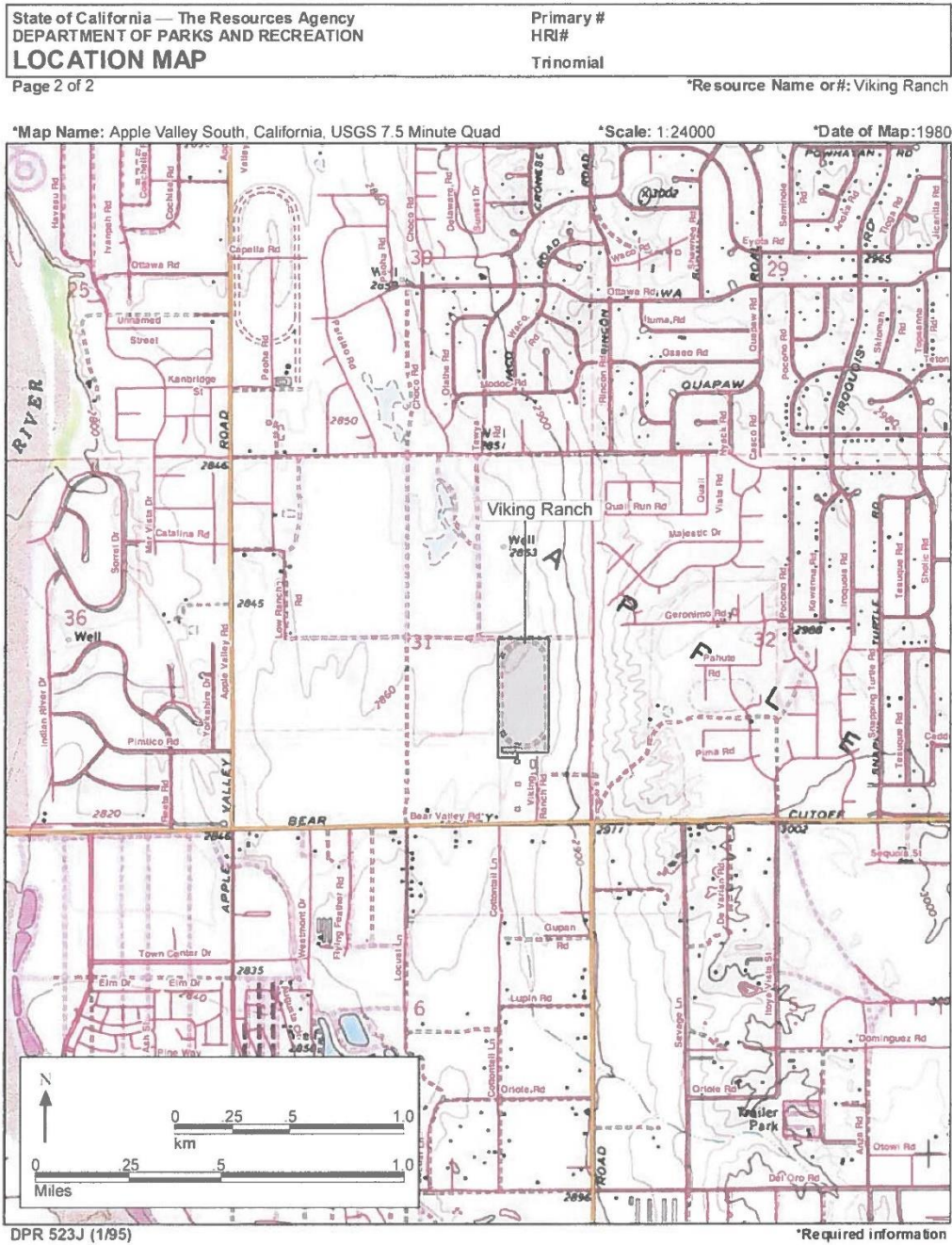
**\*P10. Survey Type:** Intensive

**\*P11. Report Citation:** *Cultural Resources Assessment of APN 3087-171-07, Town of Apple Valley, San Bernardino County, California.*

**\*Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record  
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record  
☐ Artifact Record ☐ Photograph Record ☐ Other (List):



36-029051



## APPENDIX D – UTILITIES & ENERGY



### INTRODUCTION TO ENERGY SCREENING TABLES

The following worksheets are used to evaluate the potential impacts of a project.

**Table 1 Definition of Project**

This Table is used to establish the proposed development parameters that are used in the calculation of energy usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

**Table 2 Summary of Project Impacts**

**Consumption/Generation Rates.** This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

**Tables 3 through 4 Calculation of Project Impacts**

Tables 3 through 4 indicate the results of the analysis.

**Table 3 Electrical Consumption** - This Table calculates the projected electrical consumption for new development. Default generation rates provided in the shaded areas may be changed.

**Table 4 Natural Gas Consumption** - This Table calculates the projected natural gas usage for new development. Default generation rates provided in the shaded areas may be changed.

**Table 1 Project Name:** 120 Acres

**Definition of Project Parameters** - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent Variable	Factor
<b>Residential Uses</b>	<b>Variable</b>	<b>Total Units</b>
Single-Family Residential	No. of Units	99
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
<b>Office Uses</b>	<b>Variable</b>	<b>Total Floor Area</b>
Office	Sq. Ft.	0
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
<b>Commercial Uses</b>	<b>Variable</b>	<b>Floor Area/Rooms</b>
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
<b>Manufacturing Uses</b>	<b>Variable</b>	<b>Total Floor Area</b>
Industrial Park	Sq. Ft.	0
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	0
<b>Public/Institutional</b>	<b>Variable</b>	<b>Total Floor Area</b>
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

**Table 2: Projected Energy Consumption and Generation**

*Summary of Project Impacts - Results of analysis identified below. No modifications should be made to this Table.*

Utilities Consumption and Generation		Factor	Rates
Electrical Consumption		kWh/day	1,526
Natural Gas Consumption		cubic feet/day	1,808

**Table 3: Electrical Consumption**

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	No. of Units	kWh	Variable	kWh/Unit/Day
Single-Family Residential	99	5,625.00	kWh/Unit/Year	1,525.7
Medium Density Residential	0	5,625.00	kWh/Unit/Year	0.0
Multiple-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Mobile Home	0	4,644.00	kWh/Unit/Year	0.0
Office Uses	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Office	0	20.80	kWh/Sq. Ft./Year	0.0
Medical Office Building	0	14.20	kWh/Sq. Ft./Year	0.0
Office Park	0	20.80	kWh/Sq. Ft./Year	0.0
Bank/Financial Services	0	20.80	kWh/Sq. Ft./Year	0.0
Commercial Uses	Sq. Ft./Rooms	kWh	Variable	kWh/Sq. Ft./Day
Specialty Retail Commercial	0	16.00	kWh/Sq. Ft./Year	0.0
Convenience Store	0	16.00	kWh/Sq. Ft./Year	0.0
Movie Theater	0	16.00	kWh/Sq. Ft./Year	0.0
Shopping Center	0	35.90	kWh/Sq. Ft./Year	0.0
Sit-Down Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Fast-Food Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Hotel	0	8,955.00	kWh/Sq. Ft./Year	0.0
Manufacturing Uses	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Industrial Park	0	4.80	kWh/Sq. Ft./Year	0.0
Manufacturing	0	4.80	kWh/Sq. Ft./Year	0.0
General Light Industry	0	4.80	kWh/Sq. Ft./Year	0.0
Warehouse	0	4.80	kWh/Sq. Ft./Year	0.0
Public/Institutional	Sq. Ft.	kWh	Variable	kWh/Sq. Ft./Day
Public/Institutional	0	4.80	kWh/Sq. Ft./Year	0.0
Open Space	0	0.00	kWh/Sq. Ft./Year	0.0
Total Daily Electrical Consumption (kWh/day)				1,525.7

Sources:

Residential rates were derived from the SCAQMD's CEQA Air Quality Handbook (April 1993).  
 All other rates are from Common Forecasting Methodology VII Demand Forms, 1989

**Table 4: Natural Gas Consumption**

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	No. of Units	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Single-Family Residential	99	6,665.00	Cu. Ft./Mo./Unit	1,807.8
Medium Density Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Multiple-Family Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Mobile Home	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Office Uses	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Office	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Medical Office Building	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Office Park	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Bank/Financial Services	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Commercial Uses	Sq. Ft./Rooms	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Specialty Retail Commercial	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Convenience Store	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Movie Theater	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Shopping Center	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Sit-Down Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Fast-Food Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Hotel	0	2.90	Cu. Ft./Mo./Room	0.0
Manufacturing Uses	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Industrial Park	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Manufacturing	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
General Light Industry	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Warehouse	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Public/Institutional Use	Sq. Ft.	Cu. Ft. of Nat. Gas	Variable	Cu. Ft./Day
Public/Institutional	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Open Space	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Total Daily Natural Gas Consumption (cubic feet/day)				1,807.8

Sources:

South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993



### INTRODUCTION TO UTILITY SCREENING TABLES

The following worksheets are used to evaluate the potential impacts of a project.

**Table 1 Definition of Project**

This Table is used to establish the proposed development parameters that are used in the calculation of utilities usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

**Tables 2 Summary of Project Impacts**

**Consumption/Generation Rates.** This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

**Tables 3 through 5 Calculation of Project Impacts**

Tables 3 through 7 indicate the results of the analysis.

**Table 3 Water Consumption** - This Table calculates the projected water consumption rates for new development. Default generation rates provided in the shaded areas may be changed.

**Table 4 Sewage Generation** - This Table calculates the projected effluent generation rates for new development. Default generation rates provided in the shaded areas may be changed.

**Table 5 Solid Waste Generation** - This Table calculates the projected waste generation for new development. Default generation rates provided in the shaded areas may be changed.

**Table 1 Project Name:** 120 Acres

**Definition of Project Parameters** - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent	Factor
<b>Residential Uses</b>	<b>Variable</b>	<b>Total Units</b>
Single-Family Residential	No. of Units	99
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
<b>Office Uses</b>	<b>Variable</b>	<b>Total Floor Area</b>
Office	Sq. Ft.	0
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
<b>Commercial Uses</b>	<b>Variable</b>	<b>Floor Area/Rooms</b>
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
<b>Manufacturing Uses</b>	<b>Variable</b>	<b>Total Floor Area</b>
Industrial Park	Sq. Ft.	0
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	0
<b>Public/Institutional</b>	<b>Variable</b>	<b>Total Floor Area</b>
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

**Table 2: Projected Utility Consumption and Generation**

*Summary of Project Impacts - Results of analysis identified below. No modifications should be made to this Table.*

Utilities Consumption and Generation	Factor	Rates
Water Consumption	gallons/day	38,610
Sewage Generation	gallons/day	25,740
Solid Waste Generation	pounds/day	1,211

**Table 3: Water Consumption**

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	No. of Units	Gals. of Water	Variable	Gals./Day
Single-Family Residential	99	390.00	Gals./Day/Unit	38,610.0
Medium Density Residential	0	300.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	234.00	Gals./Day/Unit	0.0
Mobile Home	0	234.00	Gals./Day/Unit	0.0
Office Uses	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Office	0	0.30	Gals./Day/Sq. Ft.	0.0
Medical Office Building	0	0.30	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.30	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.15	Gals./Day/Sq. Ft.	0.0
Commercial Uses	Sq. Ft./Room	Gals. of Water	Variable	Gals./Day
Specialty Retail Commercial	0	0.15	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.15	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.20	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.50	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.50	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.12	Gals./Day/Sq. Ft.	0.0
Hotel	0	187.50	Gals./Day/Room.	0.0
Manufacturing Uses	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Industrial Park	0	0.30	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.30	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.30	Gals./Day/Sq. Ft.	0.0
Warehouse	0	0.05	Gals./Day/Sq. Ft.	0.0
Public/Institutional Use	Sq. Ft.	Gals. of Water	Variable	Gals./Day
Public/Institutional	0	0.12	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.12	Gals./Day/Sq. Ft.	0.0
<b>Total Daily Water Consumption (gallons/day)</b>				<b>38,610.0</b>
Source: Derived from Los Angeles County Sanitation District rates (150% of effluent generation).				

**Table 4: Sewage Generation**

Project Component	Units of Measure	Generation Factor		Projected Consumption
Residential Uses	# of Units	Gals. of Effluent	Variable	Gals./Day
Single-Family Residential	99	260.00	Gals./Day/Unit	25,740.0
Medium Density Residential	0	200.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	156.00	Gals./Day/Unit	0.0
Mobile Home	0	156.00	Gals./Day/Unit	0.0
Office Uses	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Office	0	0.20	Gals./Day/Sq. Ft.	0.0
Medical Office Building	0	0.20	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.10	Gals./Day/Sq. Ft.	0.0
Commercial Uses	Sq. Ft./# Rooms	Gals. of Effluent	Variable	Gals./Day
Specialty Retail Commercial	0	0.10	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.10	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.13	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.33	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.00	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.08	Gals./Day/Sq. Ft.	0.0
Hotel	0	125	Gals./Day/Room.	0.0
Manufacturing Uses	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Industrial Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.20	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.20	Gals./Day/Sq. Ft.	0.0
Warehouse	0	0.03	Gals./Day/Sq. Ft.	0.0
Public/Institutional Use	Sq. Ft.	Gals. of Effluent	Variable	Gals./Day
Public/Institutional	0	0.10	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.10	Gals./Day/Sq. Ft.	0.0
<b>Total Daily Sewage Generation (gallons/day)</b>				<b>25,740.0</b>
Source: Los Angeles County Sanitation Districts.				



Table 5: Solid Waste Generation				
Project Component	Units of Measure	Generation Factor		Projected Generation
Residential Uses	# of Units	Lbs. of Waste	Variable	Lbs./Day
Single-Family Residential	99	12.23	Lbs./Day/Unit	1,210.8
Medium Density Residential	0	12.23	Lbs./Day/Unit	0.0
Multiple-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Mobile Home	0	12.23	Lbs./Day/Unit	0.0
Office Uses	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Office	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Medical Office Building	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Office Park	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Bank/Financial Services	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Commercial Uses	Sq. Ft./# Rooms	Lbs. of Waste	Variable	Lbs./Day
Specialty Retail Commercial	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Convenience Store	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Movie Theater	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Shopping Center	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Sit-Down Restaurant	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Fast-Food Restaurant	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Hotel	0	6.00	Lbs./Day/Room	0.0
Manufacturing Uses	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Industrial Park	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Manufacturing	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
General Light Industry	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Warehouse	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Public/Institutional Use	Sq. Ft.	Lbs. of Waste	Variable	Lbs./Day
Public/Institutional	0	4.00	Lbs./Day/1,000 Sq. Ft.	0.0
Open Space	0	3.00	Lbs./Day/1,000 Sq. Ft.	0.0
Total Daily Solid Waste Generation				1,210.8
Source: City of Los Angeles CEQA Thresholds Guide, 2006, and City of Los Angeles Average Solid Waste Generation Rates, April 1981				

## **APPENDIX E— TRAFFIC STUDY**

FOCUSED TRAFFIC ANALYSIS FOR GENERAL  
PLAN LEVEL OF SERVICE CONFORMANCE AND  
VEHICLE MILES TRAVELED (VMT) ANALYSIS

**LOS ANGELES**

201 S. Figueroa St, Suite 240  
Los Angeles, CA 90012  
213.337.3680  
Fax :213.337.3679

**ONTARIO**

4141 E. Inland Empire Blvd, Suite  
250  
Ontario, CA 91764  
909.481.5750  
Fax:909.481.5757

**SAN DIEGO**

3530 Camino Del Rio North, Suite  
105 San Diego, CA 92108  
619.400.0600  
Fax: 619.400.0599

**SANTA CLARITA**

25152 Springfield Ct, Suite 350  
Santa Clarita, CA 91355  
661.284.7400  
Fax 661.284.7401

**TEMECULA**

41951 Remington Ave, Suite 220  
Temecula, CA 92590  
951.294.9300  
Fax: 951.294-9301

**TUSTIN**

17782 17th St, Suite 200  
Tustin, CA 92780  
714.665.4500  
Fax: 714.665.4501

**VICTORVILLE**

18484 Outer Highway 18 North, Suite  
225  
Apple Valley, CA, 92307  
760.524.9100  
Fax 760.524.9101

[www.deainc](http://www.deainc)

**PROPOSED DEEP CREEK ROAD AND  
DEL ORO ROAD RESIDENTIAL  
DEVELOPMENT  
APN: 0434-042-32**

**TOWN OF APPLE VALLEY, CALIFORNIA**



DAVID EVANS  
AND ASSOCIATES INC.

**DRAFT REPORT  
February 9, 2023**



February 9, 2023

Job No. MMAI0000-1003

Mr. Mark Maida  
13302 Ranchero Road  
Oak Hills, CA 92344

**RE: DRAFT TRAFFIC LEVEL OF SERVICE CONFORMANCE AND VEHICLE MILES TRAVELED (VMT)  
ANALYSIS FOR THE PROPOSED DEEP CREEK ROAD AND DEL ORO ROAD RESIDENTIAL  
DEVELOPMENT PROJECT IN THE TOWN OF APPLE VALLEY, CA (APN: 0434-042-32)**

Dear Mr. Maida,

**David Evans and Associates, Inc.** is pleased to submit this draft Level of Service Conformance and Vehicle Miles Traveled (VMT) Analysis report for your proposed single-family residential development in the Town of Apple Valley. The proposed project consists of 99 single-family residential lots on an estimated 120-acre parcel in the Town of Apple Valley, California.

This report was prepared in accordance with San Bernardino County's Traffic Impact Study Guidelines for level of service (LOS) assessment published in July 2019, and the Town's adopted Resolution No. 2021-08 (May 2021) establishing thresholds of significance for a development's project-generated vehicle miles traveled (VMT) and the development's overall effect of VMT on the town's circulation system.

A VMT analysis was prepared to identify potentially significant transportation impacts for environmental clearance under the California Environmental Quality Act (CEQA). The VMT analysis findings and conclusions are summarized in the Executive Summary of this report and the full VMT analysis report is included in the appendix.

We are pleased to have been of assistance to you in processing and obtaining approval for the project. If you have any questions or comments, please feel free to contact me at 909-912-7304.

Respectfully submitted,

**DAVID EVANS AND ASSOCIATES, INC.**

A handwritten signature in blue ink, appearing to read 'Jim Daisa', is written over a faint circular stamp.

James M. Daisa, P.E.  
Senior Project Manager / Associate





**TABLE OF CONTENTS**

1	EXECUTIVE SUMMARY .....	1
1.1	Project Description.....	1
1.2	Town of Apple Valley Intersection Level of Service Policies .....	1
1.3	Summary of Level of Service Conformance Analysis .....	1
1.4	Project-Specific Frontage and Access Improvements.....	3
1.5	Summary of Vehicle Miles Traveled Analysis.....	3
2	INTRODUCTION .....	4
2.1	Analysis Scenarios .....	4
3	EXISTING CONDITIONS.....	7
3.1	Town of Apple Valley Intersection Level of Service Policies .....	7
3.2	Study Intersections .....	7
3.3	Existing Traffic Volumes .....	7
3.4	Intersection Capacity Analysis Methodology.....	7
3.5	Existing Traffic Analysis.....	9
4	EXISTING PLUS PROJECT CONDITIONS.....	11
4.1	Project Description and Trip Generation .....	11
4.2	Project Trip Distribution and Assignment.....	11
4.3	Existing Plus Project Level of Service Analysis .....	11
4.4	Project Access .....	16
5	BACKGROUND CONDITIONS (YEAR 2025).....	17
5.1	Background Conditions Traffic Analysis .....	17
6	BACKGROUND PLUS PROJECT CONDITIONS (YEAR 2025).....	19
6.1	Project Traffic Analysis.....	19
7	FUTURE CONDITIONS – (YEAR 2035) .....	21
7.1	Future Conditions Traffic Analysis .....	21
8	FUTURE PLUS PROJECT CONDITIONS – (YEAR 2035) .....	23
8.1	Future Plus Project Traffic Analysis.....	23
9	SUMMARY OF VEHICLES MILES TRAVELED ANALYSIS.....	25
9.1	Project-Generated VMT Analysis.....	25
9.2	Conclusions of the VMT Analyses .....	26
10	APPENDICES .....	27

**LIST OF FIGURES**

Figure 1: Vicinity Map .....	5
Figure 2: Site Plan.....	6
Figure 3: Existing Traffic Volumes .....	8
Figure 4: Existing Intersection Geometrics .....	10
Figure 5: Project Trip Distribution.....	12
Figure 6: Project Trips .....	13





Figure 7: Existing Plus Project Traffic Volumes .....	14
Figure 8: Existing Plus Project Intersection Geometrics .....	15
Figure 9: Background Traffic Volumes .....	18
Figure 10: Background Plus Project Traffic Volumes .....	20
Figure 11: Future Traffic Volumes.....	22
Figure 12: Future Plus Project Traffic Volumes.....	24

#### **LIST OF TABLES**

Table 1-1: Comparison of Existing and Existing Plus Project Intersection Levels of Service .....	1
Table 1-2: Comparison of Background and Background + Project Intersection Levels of Service .....	2
Table 1-3: Comparison of Future and Future Plus Project Conditions Intersection Levels of Service .....	2
Table 3-1: HCM 6 – LOS Criteria for Signalized Intersections .....	7
Table 3-2: Level of Service Criteria for Two-Way and All-Way Stop Controlled Intersections .....	9
Table 3-3: Intersection Level of Service for Existing (2023) Conditions .....	9
Table 4-1: Project Trip Generation .....	11
Table 4-2: Intersection Capacity Analysis – Existing Plus Project Conditions .....	11
Table 5-1: Intersection Level of Service for Background Conditions .....	17
Table 6-1: Comparison of Background and Background Plus Project LOS.....	19
Table 7-1: Intersection Level of Service for Future Conditions.....	21
Table 8-1: Comparison of Future and Future Plus Project LOS.....	23
Table 9-1: Project-Generated VMT Analysis.....	26
Table 9-2: Project Effect on Roadway VMT within Town of Apple Valley .....	26

#### **LIST OF APPENDICES**

Appendix A: Approved Scope Agreement
Appendix B: Traffic Counts
Appendix C: Intersection Capacity Analysis Worksheets
Appendix D: Vehicles Miles Traveled (VMT) Analysis

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

## 1 EXECUTIVE SUMMARY

This executive summary presents the findings and recommendations of this study.

### 1.1 Project Description

The proposed project consists of 99 single-family residential lots on an estimated 120-acre parcel. The parcel is currently zoned as Residential Agriculture (R-A) on the Town of Apple Valley Zoning Map. The proposed project is located at the northeast corner of Deep Creek Road and Del Oro Road in the Town of Apple Valley, California.

The proposed project is bounded to the north by the unpaved Gupan Road and existing single family residential properties, to the south by the unpaved Del Oro Road and Bels Poultry, to the west by Deep Creek Road and existing single family residential properties, and to the east by unpaved Savage Lane and existing single family residential properties and unincorporated vacant land.

Access to the site will be from driveways on Deep Creek Road and Del Oro Road. The proposed circulation and access plan includes constructing Del Oro Road from Deep Creek Road to the project's eastern property line (with full improvements of the street segment fronting the project) and improving Deep Creek Road from the project's northern property line to Del Oro Road. Savage Lane would be constructed and improved from the north property line to Del Oro Road for providing driveway access.

### 1.2 Town of Apple Valley Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

### 1.3 Summary of Level of Service Conformance Analysis

#### 1.3.1 Level of Service Comparison With and Without the Proposed Project

##### Existing and Existing Plus Project Conditions

A comparison of level of service between existing and existing plus project conditions identifies project-specific intersection level of service deficiencies (requiring improvements to bring peak hour level of service to Town standards). A comparison of the effect of project traffic only on existing conditions without transportation system improvements or traffic from other development identifies impacts that are solely the responsibility of the project to mitigate. This type of impact is considered "project-specific".

**Table 1-1** compares the weekday AM and PM peak hour existing and existing plus project level of services at the study intersections. The existing plus project conditions scenario represents transportation conditions as if the project were built and occupied today.

Table 1-1: Comparison of Existing and Existing Plus Project Intersection Levels of Service

Intersection	Intersection Control Type	Existing Condition				Existing + Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.1	A	7.5	A	7.4	A	7.8	A
2. Del Oro Rd at Deep Creek Rd	SSSC	11.8	B	10.8	B	12.3	B	11.4	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.6	A	8.1	A	8.7	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				9.6	A	9.3	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

As shown in the table, under existing and existing + project conditions, the study intersections operate within the Town's level of service standard LOS D, and the project does not cause any deficiencies.

**Background (Opening Year) and Background Plus Project Conditions**

A comparison of level of service between background and background plus project conditions (opening year scenario) represents the project's opening year of 2025 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually. This analysis identifies deficiencies caused by a combination of growth in traffic and the proposed project. This type of impact is considered "cumulative". A cumulative impact is typically mitigated by developments sharing in the cost of the mitigation measure.

**the study** intersections operate within the Town's level of service standard LOS D, and the project does not contribute to any deficiencies. compares the background and background plus project conditions weekday peak hour level of service at the study intersections. In the year 2025 scenario, the study intersections operate within the Town's level of service standard LOS D, and the project does not contribute to any deficiencies.

**Table 1-2: Comparison of Background and Background + Project Intersection Levels of Service**

Intersection	Control Type	Background Condition				Background + Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.6	A	8.1	A	7.8	A	8.4	A
2. Del Oro Rd at Deep Creek Rd	SSSC	12.2	B	11.0	B	12.7	B	11.7	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.8	A	8.2	A	8.9	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				9.7	A	9.4	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									

**Future Year (2035) and Future Year (2035) Plus Project Conditions**

The comparison of future year 2035 and future plus project conditions represent the forecast year of 2035 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually. If a deficiency is identified in this long-term scenario, it is considered a "cumulative" deficiency. A cumulative deficiency is typically mitigated by developments sharing in the cost of the mitigation measure.

the study intersections operate within the Town's level of service standard LOS D, and the project does not contribute to any deficiencies.

Table 1-3 compares the future and future plus project conditions weekday peak hour level of service at the study intersections. In the year 2035 scenario, the study intersections operate within the Town's level of service standard LOS D, and the project does not contribute to any deficiencies.

**Table 1-3: Comparison of Future and Future Plus Project Conditions Intersection Levels of Service**

Intersection	Intersection Control Type	Future Condition				Future + Project Condition			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	11.7	B	15.5	B	12.6	B	16.0	B
2. Del Oro Rd at Deep Creek Rd	SSSC	14.2	B	12.4	B	14.9	B	13.3	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.7	A	9.8	A	8.9	A	9.9	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				10.2	B	9.8	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									





#### 1.4 Project-Specific Frontage and Access Improvements

##### 1.4.1 Project-Specific Measures to Improve Level of Service Deficiencies

The analysis did not identify any level of service deficiencies under any of the three analysis scenarios and, therefore, there are no project-specific (or cumulative) measures required to improve level of service.

##### 1.4.2 Project-Specific Frontage and Access Improvements

This study recommends the following site frontage and access improvements typically required in the Town's Conditions of Approval:

The project's proposed circulation and access plan includes constructing Del Oro Road from Deep Creek Road to the project's eastern property line (with full improvements of the street segment fronting the project) and improving Deep Creek Road from the project's northern property line to Del Oro Road. Savage Lane would be constructed and improved from the north property line to Del Oro Road for providing driveway access.

#### 1. Construct access and site frontage improvements on Deep Creek Road:

- a. Construct and improve the project's frontage with Deep Creek Road between the project's northern property line and Del Oro Road.
  - Deep Creek Road is designated a secondary road with an 88-foot right of way. The project will be required to dedicate and widen Deep Creek Road to the 44-foot half-width of a secondary road section including the proposed driveways accessing the project from Deep Creek Road. Until the other half of Deep Creek Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.

#### 2. Construct access and site frontage improvements on Del Oro Road:

- a. Construct Del Oro Road<sup>1</sup> from Deep Creek Road to the Eastern Property Line.
  - The project will be required to dedicate land and construct the 44-foot half-width of a secondary road section including the Project's Driveway "B". Until the southern half of Del Oro Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.
  - The project should also construct a minimum two-way two-lane (one lane in each direction) roadway between its eastern property line and Deep Creek Road to fill the gap created by the non-project owned property in the southeast corner of Deep Creek Road and Del Oro Road.

#### 1.5 Summary of Vehicle Miles Traveled Analysis

##### 1.5.1 Conclusions of the VMT Analyses

The VMT analysis conducted to identify potentially significant "project-generated VMT" impacts under CEQA concludes that the proposed project generates a VMT / Service population less than the VMT / Service population representing buildout of Apple Valley's general plan and, therefore, does not cause a significant impact based on the town's adopted significance thresholds for project-generated VMT. A detailed summary of the VMT analysis is in Chapter 9 and **Appendix D**.

An analysis conducted to identify potentially significant impacts of the project's "effects on town-wide VMT" under CEQA concludes that the VMT / Service population metric for the baseline and horizon year scenarios "with the project" does not increase the metric over the "without project" scenarios. Therefore, the proposed project does not cause a significant impact based on the town's adopted significance thresholds for the project's effect on town-wide VMT.

---

<sup>1</sup> Del Oro Road is designated as a Secondary Road in the General Plan with an 88-foot right of way to accommodate a four-lane traveled way with shoulder, bike lanes, or street parking, and a 12-foot parkway / sidewalk on both side of the street



## 2 INTRODUCTION

This report identifies level of service deficiencies and presents recommendations for access and traffic mitigation for the proposed Deep Creek Road and Del Oro Road Residential project in the Town of Apple Valley, California. The proposed project consists of 99 single-family residential lots on an estimated 120-acre parcel. The proposed project is located at the northeast corner of Deep Creek Road and Del Oro Road.

The project site is located on the northeast corner of Deep Creek Road and Del Oro Road, as illustrated in the vicinity map shown in **Figure 1**. The proposed project is bounded to the north by the unpaved Gupan Road and existing single family residential properties, to the south by the unpaved Del Oro Road and Bels Poultry, to the west by Deep Creek Road and existing single family residential properties, and to the east by unpaved Savage Ln and existing single family residential properties and unincorporated properties. **Figure 2** illustrates the proposed Site Plan. As shown in the exhibit, access to the site will be obtained from driveways on Deep Creek Road and Del Oro Road.

The intent of this report is to evaluate the project's potentially significant traffic impacts on the Town's policy to maintain a level of service (LOS) D during weekday peak hours in accordance with the Town of Apple Valley and San Bernardino County traffic impact analysis requirements under the following scenarios:

- Existing Conditions - Chapter 3
- Existing Plus Project Conditions - Chapter 4
- Background Conditions (Opening Year 2025 without project) - Chapter 5
- Background Plus Project Conditions (Opening Year 2025 with project) - Chapter 6
- Future Conditions – (Year 2035 without project)- Chapter 7
- Future Plus Project Conditions – (Year 2035 with project)- Chapter 8

### 2.1 Analysis Scenarios

**Existing Conditions.** This scenario represents existing transportation conditions at the time this report was prepared. Data includes traffic counts collected in January 2023 and current roadway and intersection geometries. This scenario is used as the baseline condition from which to measure project-specific impacts.

**Existing Plus Project Conditions.** This scenario represents transportation conditions as if the project were built and occupied today. This scenario is intended to identify potentially significant impact (requiring improvements) when compared to existing conditions without any unrelated transportation system improvements or other development. Impacts identified in this scenario are considered “project-specific”—impacts that are the sole responsibility of the project to mitigate.

**Background Conditions (Year 2025).** This scenario represents conditions at the time the project is anticipated to be constructed and occupied (year 2025 for this project) but without traffic generated by the project. The ambient growth is a general rate of growth in traffic from overall regional development (assumed to be 3.5% annually for this study).

**Background Plus Project Conditions (Year 2025).** This scenario adds the project's estimated traffic generation at project buildout (year 2025) to the background conditions scenario described above. Impacts identified in this scenario are considered “cumulative” impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.

**Future Conditions – (Year 2035)** This scenario represents conditions at the cumulative Year 2035 but without traffic generated by the project. This scenario is comprised of an ambient growth, a general rate of growth in traffic from overall regional growth (assumed to be 3.5% annually for this study).

**Future Plus Project Conditions – (Year 2035).** This scenario adds the project's estimated traffic generation to the future conditions scenario described above. Impacts identified in this scenario are considered “cumulative” impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.



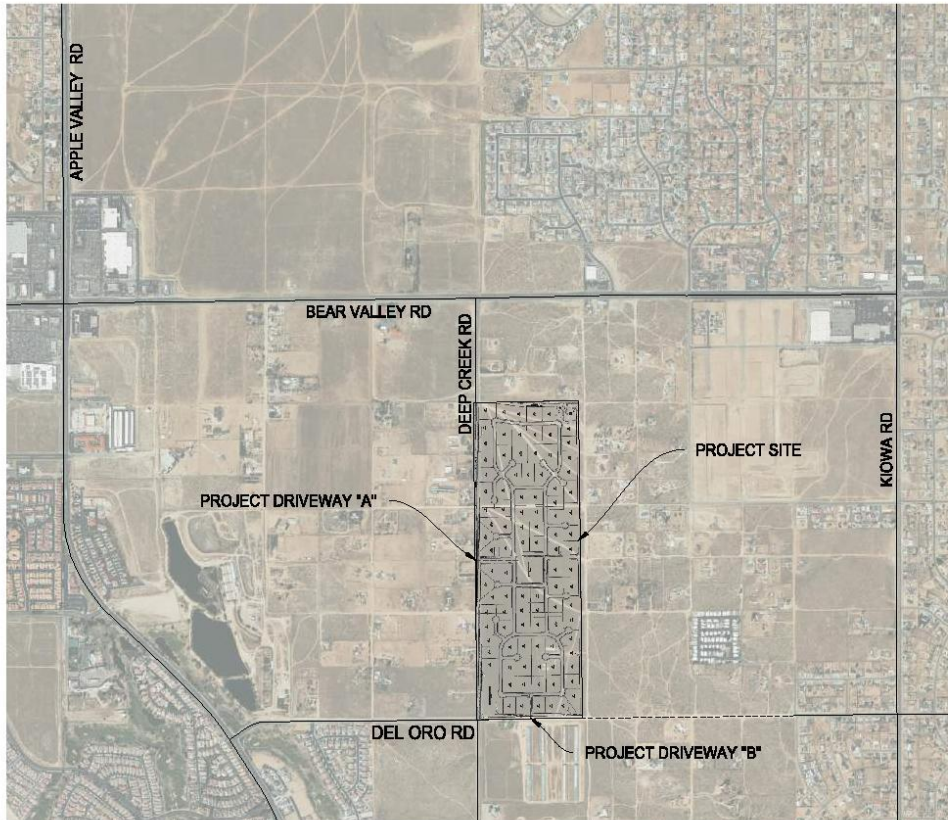
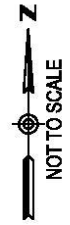
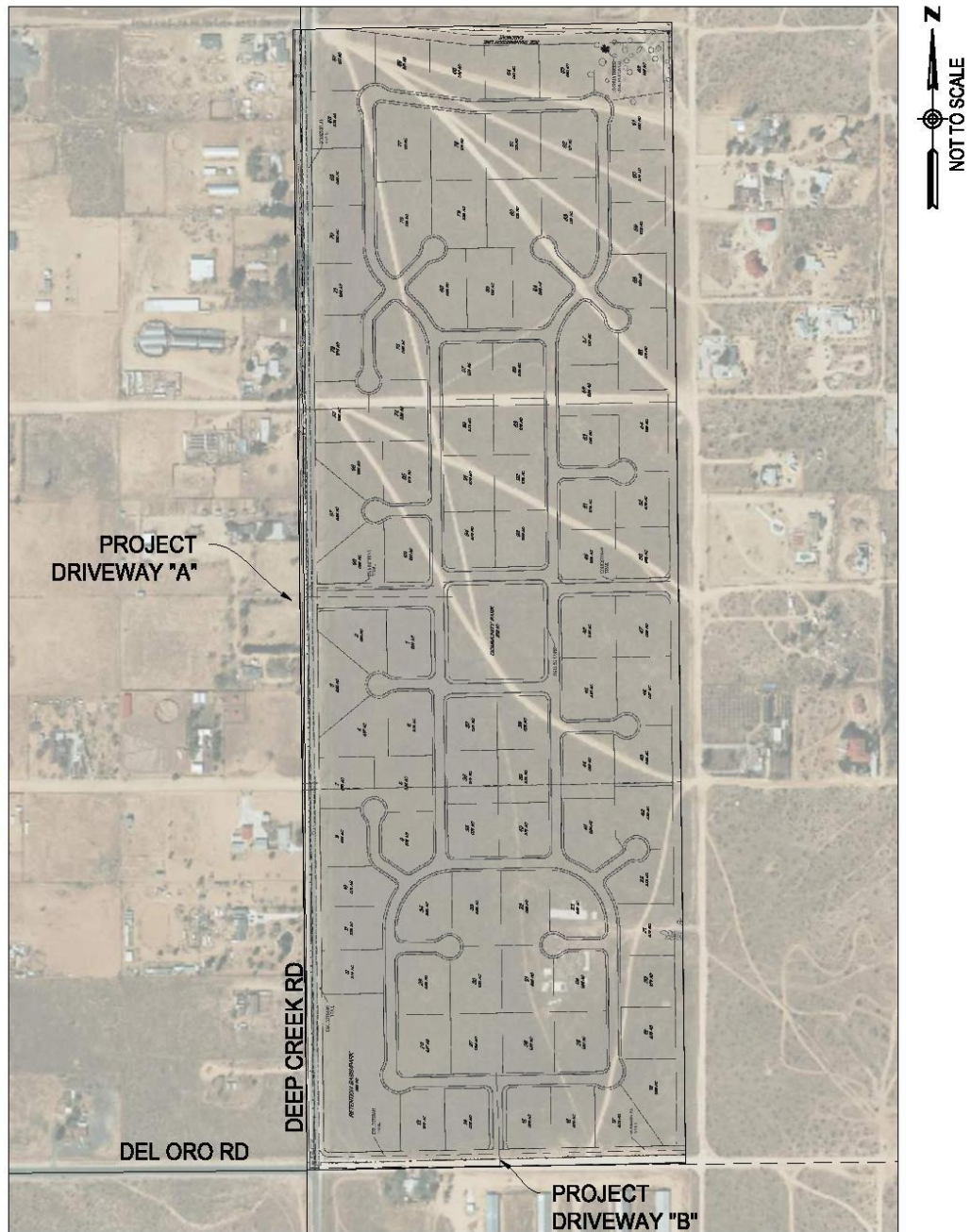


FIGURE 1: VICINITY MAP  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

Design Name: Deep Creek Road and Del Oro Road Residential Development  
 Last Updated: Feb 12, 2021 - 7:57 PM by am



**DE**  
**DAVID EVANS**  
**AND ASSOCIATES INC.**

FIGURE 2: SITE PLAN  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

Design Name: Deep Creek Road and Del Oro Road  
 Last Revised: Feb 12, 2021 - 7:07pm by am



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

### 3 EXISTING CONDITIONS

#### 3.1 Town of Apple Valley Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

#### 3.2 Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. The list below identifies the intersections analyzed in this study.

1. Bear Valley Road at Deep Creek Road
2. Del Oro Road at Deep Creek Road
3. Del Oro Road at Apple Valley Road
4. Deep Creek Road at Project Driveway "A" (Future Intersection)
5. Del Oro Road at Project Driveway "B" (Future Intersection)

The intersection of Bear Valley Road at Deep Creek Road is traffic signal controlled. The intersections of Del Oro Road at Deep Creek Road and Del Oro Road at Apple Valley Road are side street stop controlled.

#### 3.3 Existing Traffic Volumes

Turn movement counts were conducted in January 2023 by Newport Traffic Studies, an independent traffic data collection company. These counts were collected during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods. The existing turn movement counts are included in **Appendix B** of this study. **Figure 3** illustrates the existing peak hour traffic volumes in the study area.

#### 3.4 Intersection Capacity Analysis Methodology

In this study, intersection level of service (LOS) was determined using Synchro software<sup>2</sup> which implements the methodologies in Chapter 19 and Chapter 20 of the Highway Capacity Manual, 6<sup>th</sup> Edition (HCM 6)<sup>3</sup> and conforms to the procedures and assumptions in the county's Traffic Impact Analysis Guidelines.

The intersection analyses use existing intersection geometrics and existing traffic volumes in determining AM and PM peak hour intersection level of service. **Table 3-1: HCM 6 – LOS Criteria for Signalized Intersections** provides LOS thresholds for signalized intersections as provided in the HCM 6 Chapter 19.

Table 3-1: HCM 6 – LOS Criteria for Signalized Intersections

Control Delay (seconds /veh)	LOS by Volume-to-Capacity Ratio <sup>a</sup>	
	≤1.0	>1.0
≤ 10	A	F
> 10 - 20	B	F
> 20 - 35	C	F
> 35 - 55	D	F
> 55 - 80	E	F
> 80	F	F

Note: <sup>a</sup> For approach-based and intersection-wide assessments, LOS is defined solely by control delay.  
Source: Highway Capacity Manual 6<sup>th</sup> Edition, Exhibit 19-8.

<sup>2</sup> Trafficware Ltd, version 10.

<sup>3</sup> Transportation Research Board, Washington D.C., 2010.



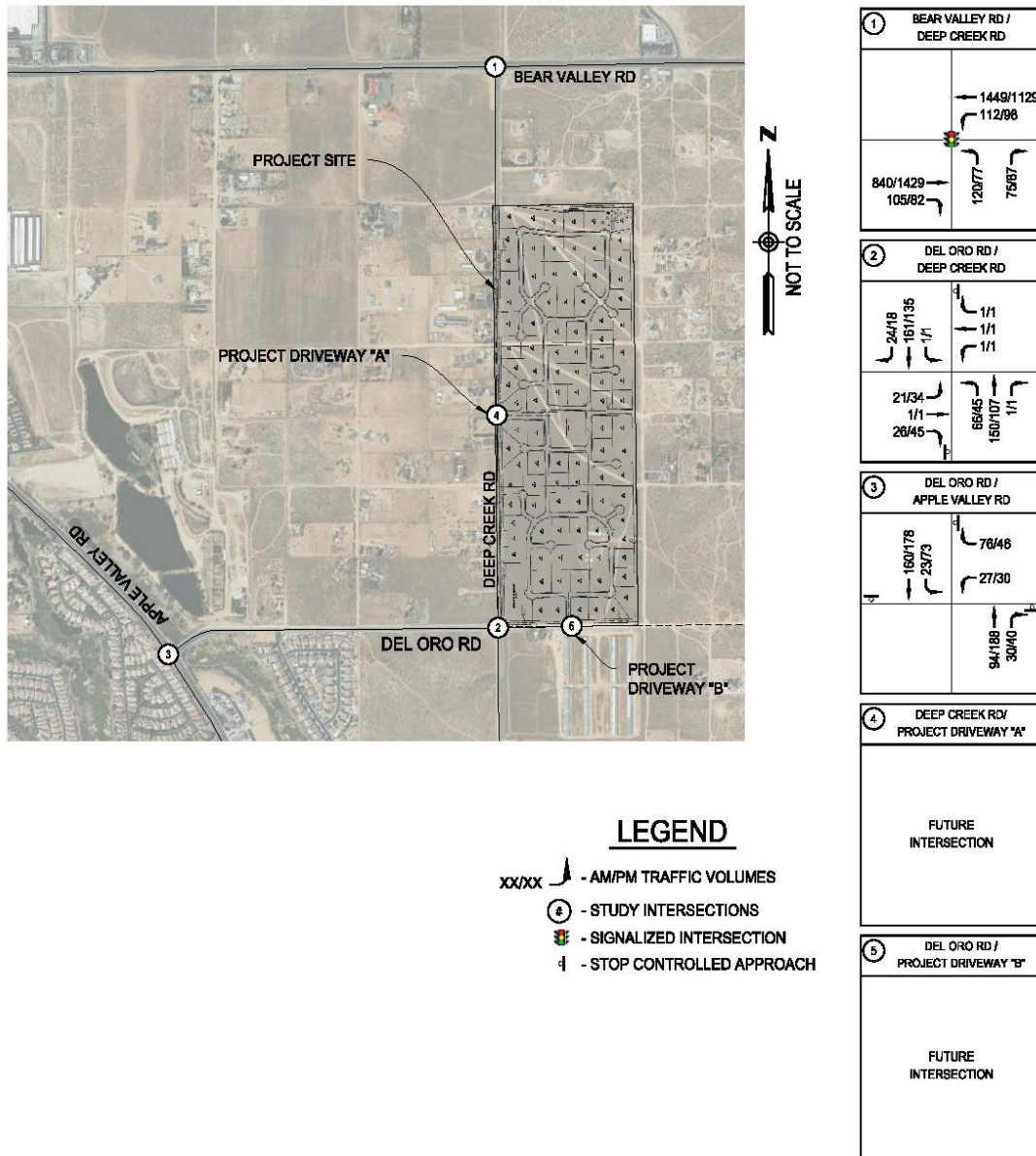


FIGURE 3: EXISTING TRAFFIC VOLUMES  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

David Evans and Associates Inc.  
 10000 Apple Valley Blvd., Suite 100  
 Apple Valley, CA 92308  
 Last Updated: Feb 12, 2021. Prepared by: DE



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

**Table 3-2** provides LOS thresholds for both two-way stop-controlled (TWSC) and all-way stop-controlled intersections which is determined by the computed or measured control delay. Unsignalized intersections have lower delay criteria than signalized intersections because stop-control is associated with more uncertainty for users, as delays are less predictable than they are at signals, which reduces the user's tolerance for delay.

The level of service at TWSC intersections is measured as the control delay for the worst stop-controlled movement at the intersection regardless of the movement's traffic volume. The level of service at AWSC intersections is also measured as the control delay, but it applies to the entire intersection not individual movements.

**Table 3-2: Level of Service Criteria for Two-Way and All-Way Stop Controlled (TWSC & AWSC) Intersections**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio <sup>a</sup>	
	≤1.0	>1.0
0 - 10	A	F
> 10 - 15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

**Note:**  
The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for the uncontrolled major-street approaches or for the intersection as a whole.  
[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.  
Source: Highway Capacity Manual 6<sup>th</sup> Edition, Exhibit 20-2.

### 3.5 Existing Traffic Analysis

Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. **Table 3-3** and **Appendix C** provide the results of the analysis. **Figure 4** illustrates the existing intersection geometrics used in the capacity analysis.

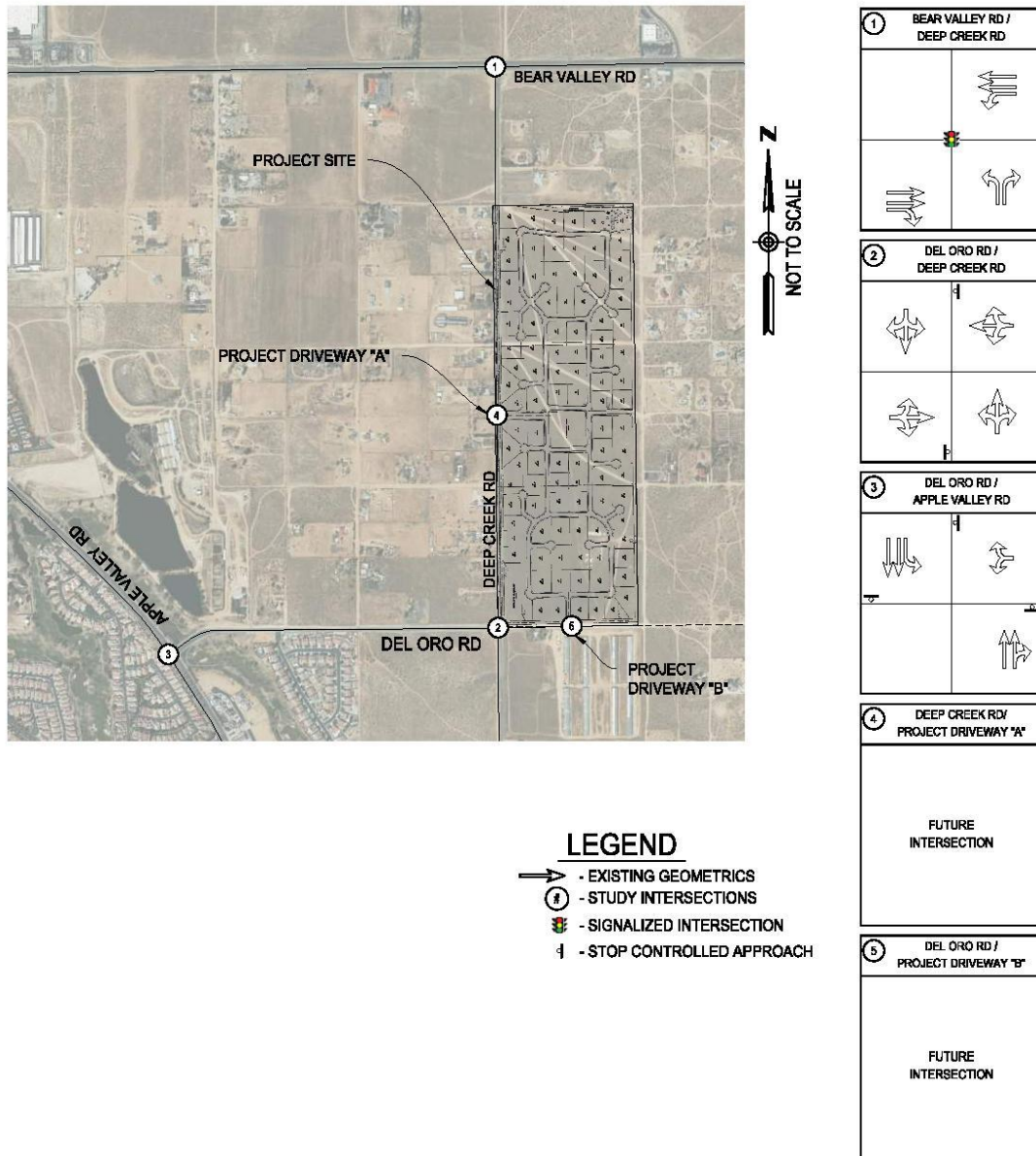
**Table 3-3: Intersection Level of Service for Existing (2023) Conditions**

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.1	A	7.5	A
2. Del Oro Rd at Deep Creek Rd	SSSC	11.8	B	10.8	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.6	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)			
5. Del Oro Rd at Project Driveway "B"	SSSC				

**Notes:**  
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).  
**Abbreviations:**  
Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control

As presented in **Table 3-3**, under existing conditions, all study intersections currently operate at LOS B or better in both peak hours.





**FIGURE 4: EXISTING INTERSECTION GEOMETRICS  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA**

Drawn by: [Name] Date: [Date]  
 Last Checked: Feb 12, 2021. Review by: [Name]



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

#### 4 EXISTING PLUS PROJECT CONDITIONS

The existing plus project conditions scenario represents transportation conditions as if the project were built and occupied today. This scenario is intended to identify potentially significant impact (requiring improvements) when compared to Existing Conditions without any unrelated transportation system improvements or other development. Impacts identified in this scenario are considered “project-specific”—impacts that are the sole responsibility of the project to mitigate.

##### 4.1 Project Description and Trip Generation

The trip generation rates for the proposed land use **Single-Family Detached Housing (ITE Land Use 210)** were obtained from the ITE Trip Generation Manual, 11th Edition. **Table 4-1** summarizes the estimated trip generation for the proposed project for daily, AM peak hour (7-9 AM) and PM peak hour (4-6 PM) peak. The proposed project is estimated to generate 934 daily trips, 70 AM peak period and 94 PM peak period trips.

Table 4-1: Project Trip Generation

Land Use		Size	Daily	AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1	Single-Family Detached Housing (ITE 210)									
	Rates (Trips Per Dwelling Unit)		99	9.43	0.18	0.56	0.7	0.62	0.35	0.94
	Trips			934	18	52	70	59	35	94

Source: “Trip Generation Manual, Institute of Transportation Engineers”, 11<sup>th</sup> Edition

##### 4.2 Project Trip Distribution and Assignment

To address the impacts of the estimated project traffic, the trips were distributed by direction towards major commute routes and concentrations of commercial and employment centers. Once the distribution pattern was established, project trips were assigned to the area streets that serve the project.

The distribution of the project trips is illustrated in **Figure 5**. The assignment of project trips to nearby intersections is illustrated in **Figure 6**.

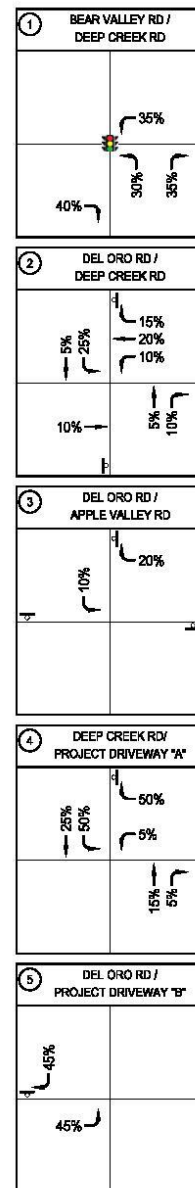
##### 4.3 Existing Plus Project Level of Service Analysis

The intersection capacity analysis of existing plus project conditions uses the AM and PM peak hour traffic volumes shown in **Figure 7** and the intersection geometrics shown in **Figure 8**. **Table 4-2** and **Appendix C** provide the results of the analysis.

Table 4-2: Intersection Capacity Analysis – Existing Plus Project Conditions

Intersection	Intersection Control Type	Existing Condition				Existing + Project Condition			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.1	A	7.5	A	7.4	A	7.8	A
2. Del Oro Rd at Deep Creek Rd	SSSC	11.8	B	10.8	B	12.3	B	11.4	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.6	A	8.1	A	8.7	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				9.6	A	9.3	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									

As presented in **Table 4-2**, under existing plus project conditions, all the study intersections are anticipated to continue to operate at a LOS B or better in both peak hours.



Drawing Name: D:\Work\3d\3d\24768\Figure.dwg



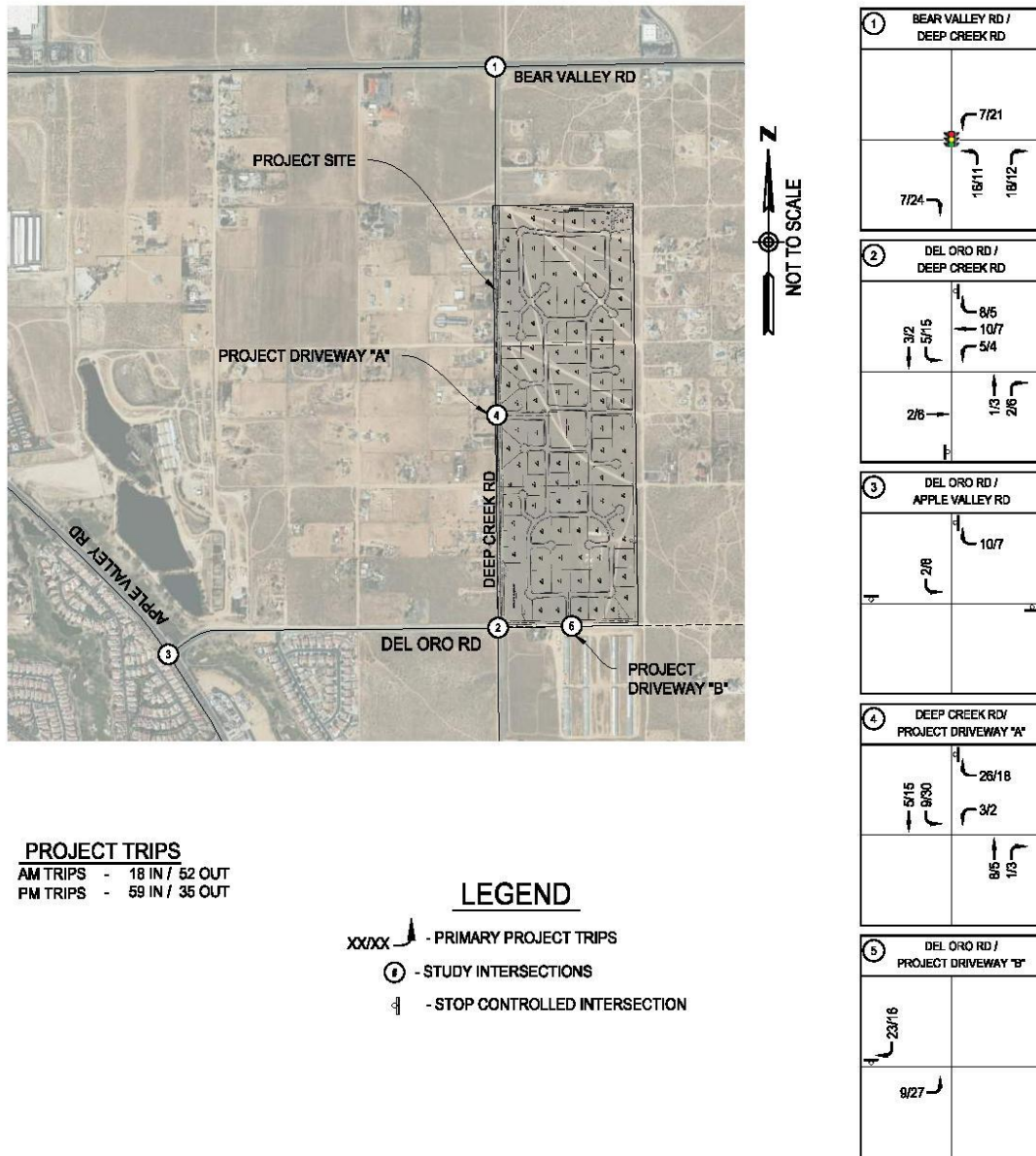


FIGURE 6: PROJECT TRIPS  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

Drawn by: David Evans and Associates Inc. 12/18/2021  
 Last Checked: Feb 12, 2022 - Reviewed by: am

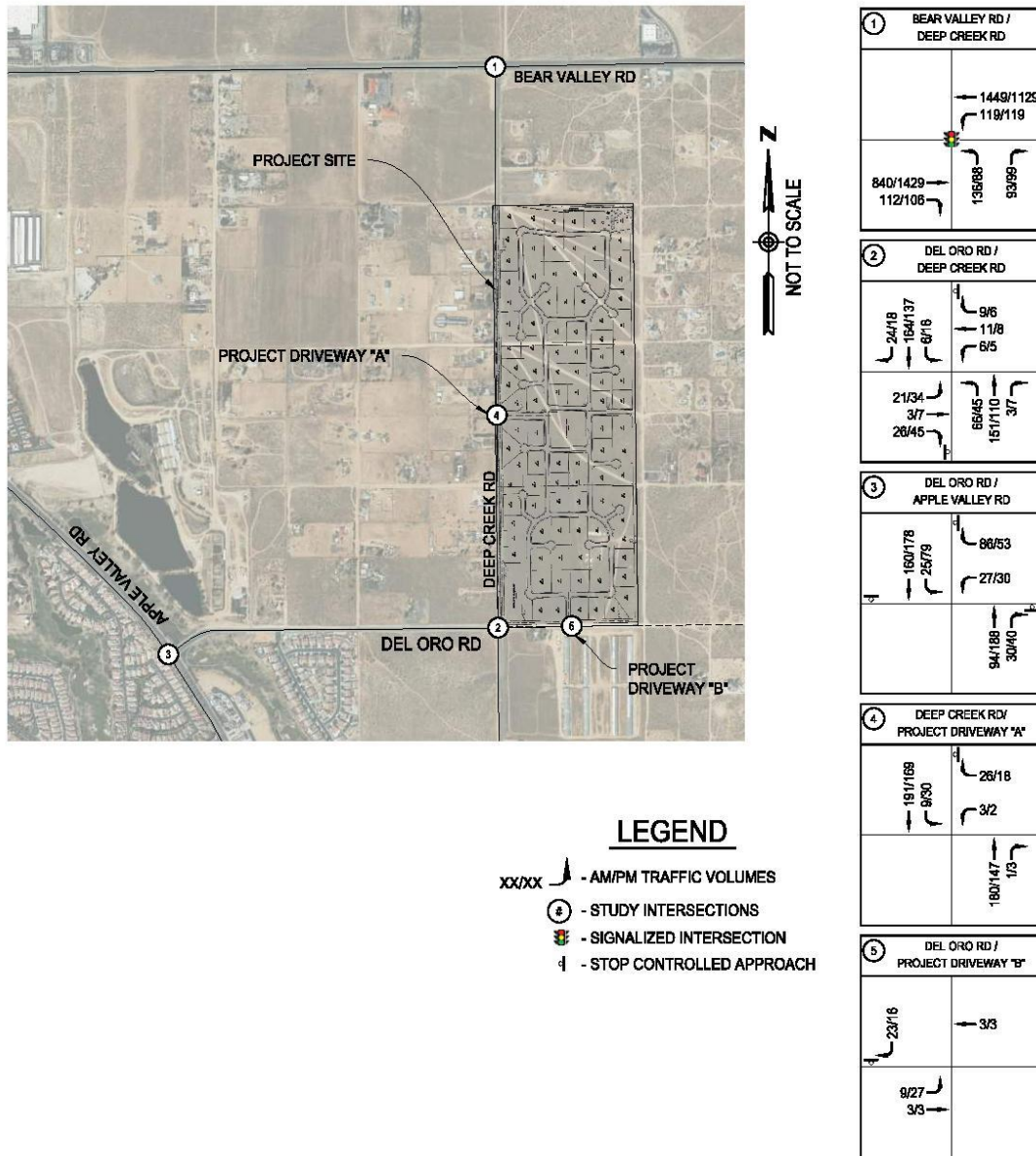


FIGURE 7: EXISTING PLUS PROJECT  
 TRAFFIC VOLUMES  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA



Drawn by: David Evans and Associates Inc. 12/15/2021  
 Last Checked: Feb 12, 2022 - Reviewed by: DE



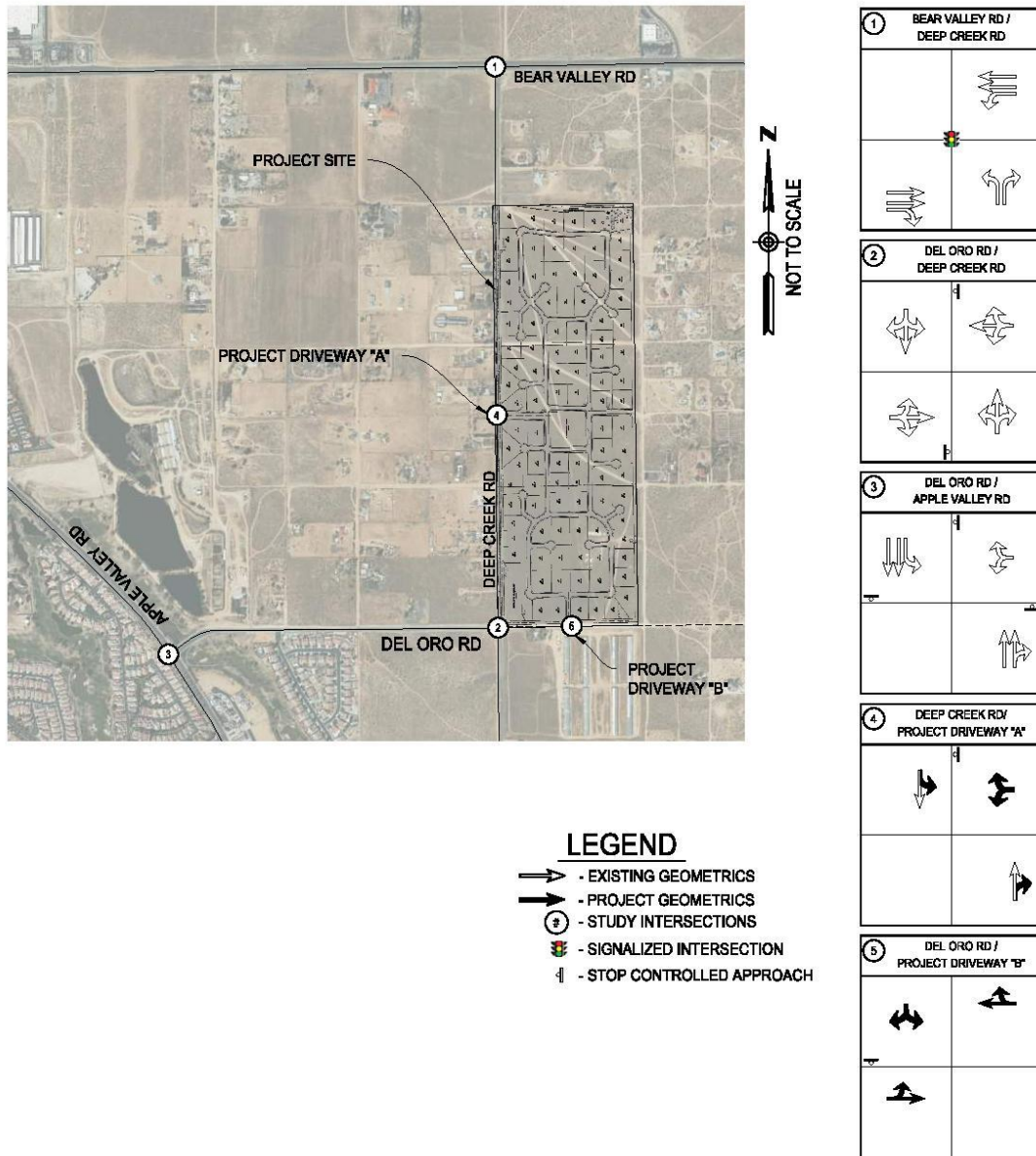


FIGURE 8: EXISTING PLUS PROJECT  
 INTERSECTION GEOMETRICS  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA



David Evans and Associates Inc.  
 10000 Apple Valley Blvd., Suite 100  
 Apple Valley, CA 92308  
 Last Updated: Feb 12, 2021. Prepared by: DE



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

#### 4.4 Project Access

##### 4.4.1 Project Access

Access to the site is from driveways on Deep Creek Road and Del Oro Road. The proposed circulation and access plan includes constructing Del Oro Road from Deep Creek Road to the project's eastern property line (with full improvements of the street segment fronting the project) and improving Deep Creek Road from the project's northern property line to Del Oro Road. Savage Lane would be constructed and improved from the north property line to Del Oro Road for providing driveway access.

Driveway "A" is located on the along Deep Creek Road approximately 2,000 feet north of Del Oro Road. Driveway "B" is located along Del Oro Road approximately 675 feet east of Deep Creek Road.

##### 4.4.2 Deep Creek Road's Planning Context and Design Standards

Deep Creek Road is identified as a Secondary Road on the Town of Apple Valley Street System General Plan. This right of way is associated with the Town's Master Plan of Highways in the Arterial Roads category as a Secondary Road (88-foot RW and 64-foot curb separation).

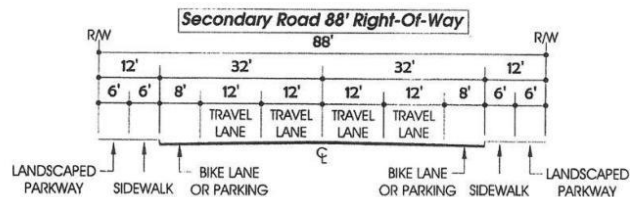
The current paved width of Deep Creek Road along the project's frontage is about 28 feet measured from the face of curb on the west side of the street to the edge of pavement on the east side of the street. The west and east sides of the street are unimproved lacking curb, gutter, and sidewalk.

##### 4.4.3 Del Oro Road's Planning Context and Design Standards

Del Oro Road is identified as a Secondary Road on the Town of Apple Valley Street System General Plan. This right of way is associated with the Town's Master Plan of Highways in the Arterial Roads category as a Secondary Road (88-foot RW and 64-foot curb separation).

Currently, Del Oro Road along the project's frontage is a dirt road.

The Town of Apple Valley's General Plan Roadway Cross Section for a Secondary Road is provided below. The Town's General Plan Circulation Element outlines that a Secondary Road may not be required to include curbs and gutters in low-density residential areas. The parcel is currently zoned as Residential Agriculture (R-A).



Town of Apple Valley: Secondary Road Standard



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

## 5 BACKGROUND CONDITIONS (YEAR 2025)

This scenario evaluates impacts due to ambient growth in traffic and traffic generated by other area development projects affecting the study area up to the year 2025 when project construction is expected to be completed. An annual growth rate in traffic of 3.5% represents both ambient growth and other area development projects.

### 5.1 Background Conditions Traffic Analysis

The background conditions intersection level of service analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic shown in **Figure 9. Table 5-1** and **Appendix C** provides the results of the analysis.

Table 5-1: Intersection Level of Service for Background Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.6	A	8.1	A
2. Del Oro Rd at Deep Creek Rd	SSSC	12.2	B	11.0	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.8	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)			
5. Del Oro Rd at Project Driveway "B"	SSSC				
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control					

As presented in **Table 5-1**, under background conditions, all the study intersections are anticipated to continue to operate at a LOS B or better in both peak hours.

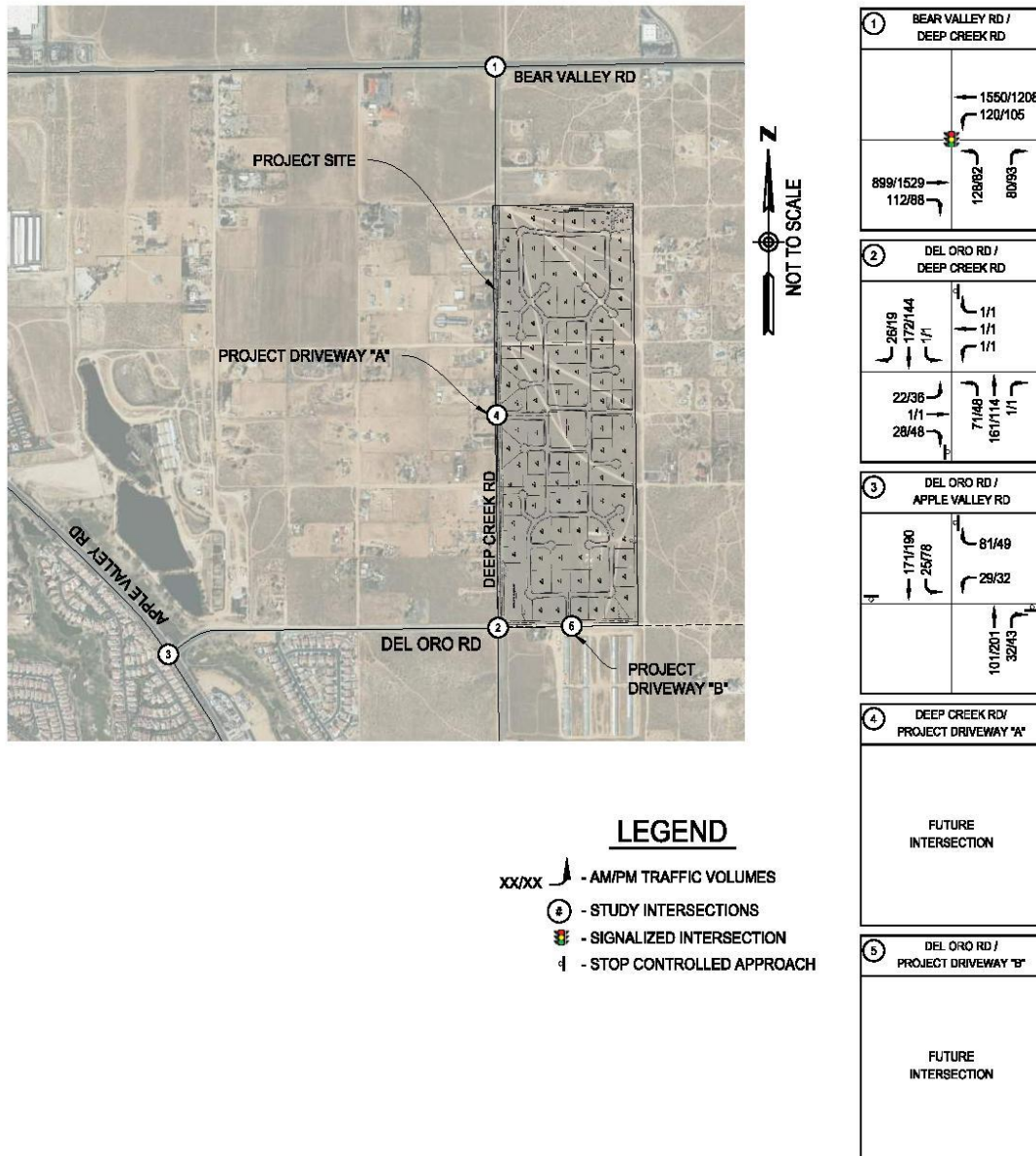


FIGURE 9: BACKGROUND TRAFFIC VOLUMES  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

Design Name: Deep Creek Road and Del Oro Road Residential Development  
 Last Updated: Feb 12, 2021 - Traffic by AM





*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

## 6 BACKGROUND PLUS PROJECT CONDITIONS (YEAR 2025)

The project conditions scenario evaluates the potential cumulative impacts to the study intersections due to ambient growth and traffic from other area development that occurs up to the year 2025 with the addition of project traffic.

This scenario adds the project's estimated traffic generation to the background conditions scenario. Level of service deficiencies identified in this scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any improvement measures.

### 6.1 Project Traffic Analysis

Intersection capacity analysis for the study intersections uses existing lanes geometries and the proposed project-specific access, roadway, and off-site intersection improvements described earlier. The results of the analysis are shown in **Table 6-1** and provided in **Appendix C**.

**Table 6-1** compares intersection level of service of background and background plus project conditions based on the AM and PM peak hour traffic volumes shown in **Figure 10**.

**Table 6-1: Comparison of Background and Background Plus Project LOS**

Intersection	Control Type	Background Condition				Background + Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	7.6	A	8.1	A	7.8	A	8.4	A
2. Del Oro Rd at Deep Creek Rd	SSSC	12.2	B	11.0	B	12.7	B	11.7	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.1	A	8.8	A	8.2	A	8.9	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				9.7	A	9.4	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									

As presented in **Table 6-1**, under background plus project conditions, all the study intersections are anticipated to continue to operate at a LOS B or better in both peak hours.





*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

## 7 FUTURE CONDITIONS – (YEAR 2035)

This scenario represents conditions at the cumulative year 2035 but without traffic generated by the project. This scenario is comprised of an ambient growth, a general rate of growth in traffic from overall regional growth (assumed to be 3.5% annually for this study).

### 7.1 Future Conditions Traffic Analysis

The future conditions intersection capacity analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes as shown in Figure 11. **Table 7-1** and **Appendix C** provide the results of the analysis.

**Table 7-1: Intersection Level of Service for Future Conditions**

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	11.7	B	15.5	B
2. Del Oro Rd at Deep Creek Rd	SSSC	14.2	B	12.4	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.7	A	9.8	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)			
5. Del Oro Rd at Project Driveway "B"	SSSC				
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control					

As presented in **Table 7-1**, under future conditions, all the study intersections are anticipated to continue to operate at a LOS B or better in both peak hours.

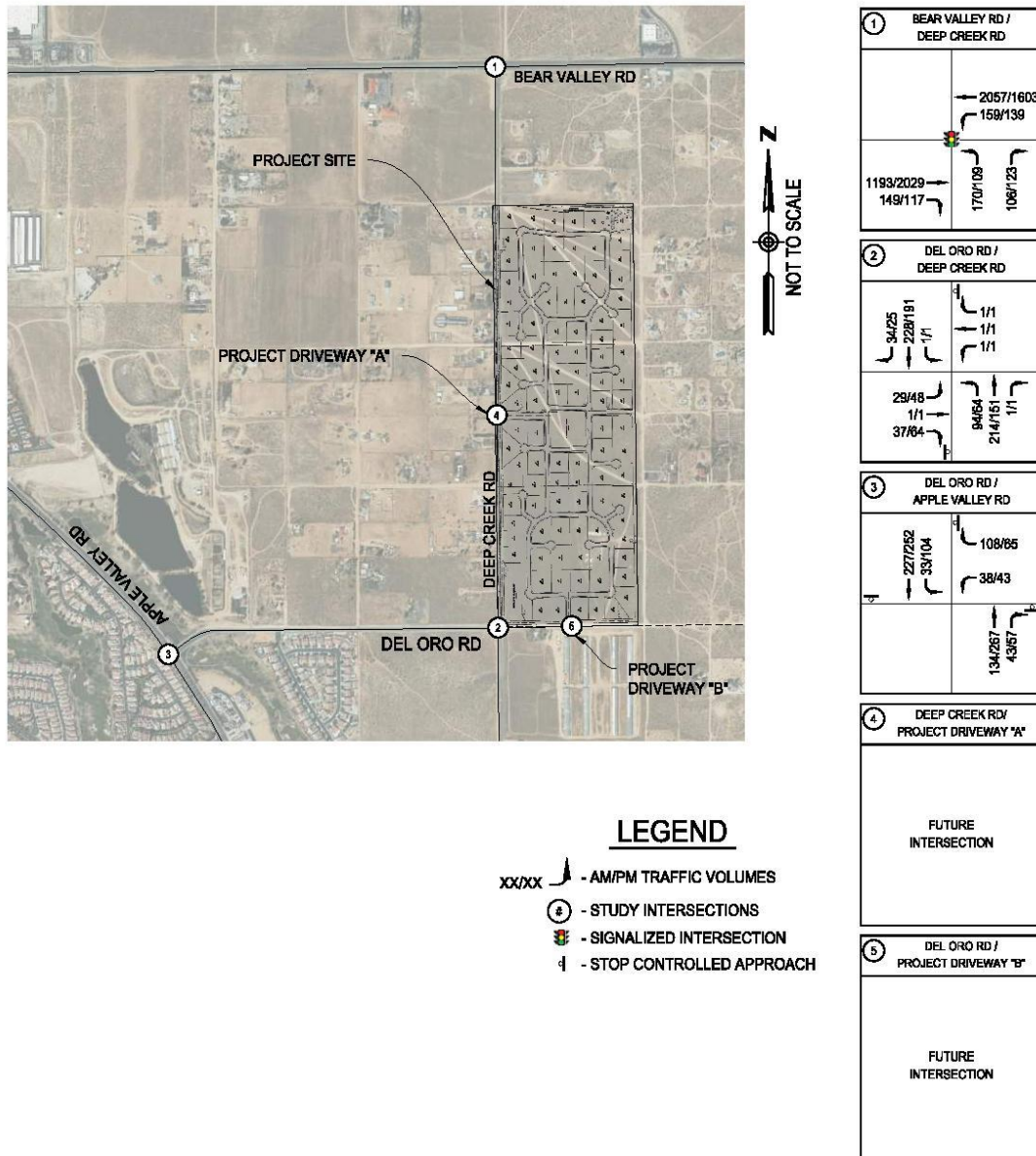


FIGURE 11: FUTURE TRAFFIC VOLUMES  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA

David Evans and Associates Inc.  
 10000 Apple Valley Blvd., Suite 100  
 Apple Valley, CA 92308  
 Last Updated: Feb 12, 2021. Prepared by: DE



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

## 8 FUTURE PLUS PROJECT CONDITIONS – (YEAR 2035)

The future plus project conditions scenario adds the project's estimated traffic generation to the future condition's scenario described in Chapter 7. As described in the previous section, the scenario is comprised of an ambient growth, a general rate of growth in traffic from overall regional growth (assumed to be 3.5% annually for this study).

### 8.1 Future Plus Project Traffic Analysis

Intersection capacity analysis for the study intersections uses existing lanes geometries and the proposed project-specific access, roadway, and off-site intersection improvements described earlier. The results of the analysis are shown in **Table 8-1** and provided in **Appendix C**.

**Table 8-1** compares intersection level of service of future and future plus project conditions based on the AM and PM peak hour traffic volumes shown in **Figure 12**. The capacity analysis worksheets are in **Appendix C**.

Table 8-1: Comparison of Future and Future Plus Project LOS

Intersection	Control Type	Future Condition				Future + Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bear Valley Rd at Deep Creek Rd	TS	11.7	B	15.5	B	12.6	B	16.0	B
2. Del Oro Rd at Deep Creek Rd	SSSC	14.2	B	12.4	B	14.9	B	13.3	B
3. Del Oro Rd at Apple Valley Rd	AWSC	8.7	A	9.8	A	8.9	A	9.9	A
4. Deep Creek Rd at Project Driveway "A"	SSSC	Not Applicable (Future Intersection)				10.2	B	9.8	A
5. Del Oro Rd at Project Driveway "B"	SSSC					8.4	A	8.6	A
<b>Notes:</b> Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F). <b>Abbreviations:</b> Intersection control types: TS = traffic signal, SSSC= side-street stop-control, AWSC = all-way stop-control									

As presented in **Table 8-1**, under future plus project conditions, all the study intersections are anticipated to continue to operate at a LOS B or better in both peak hours.

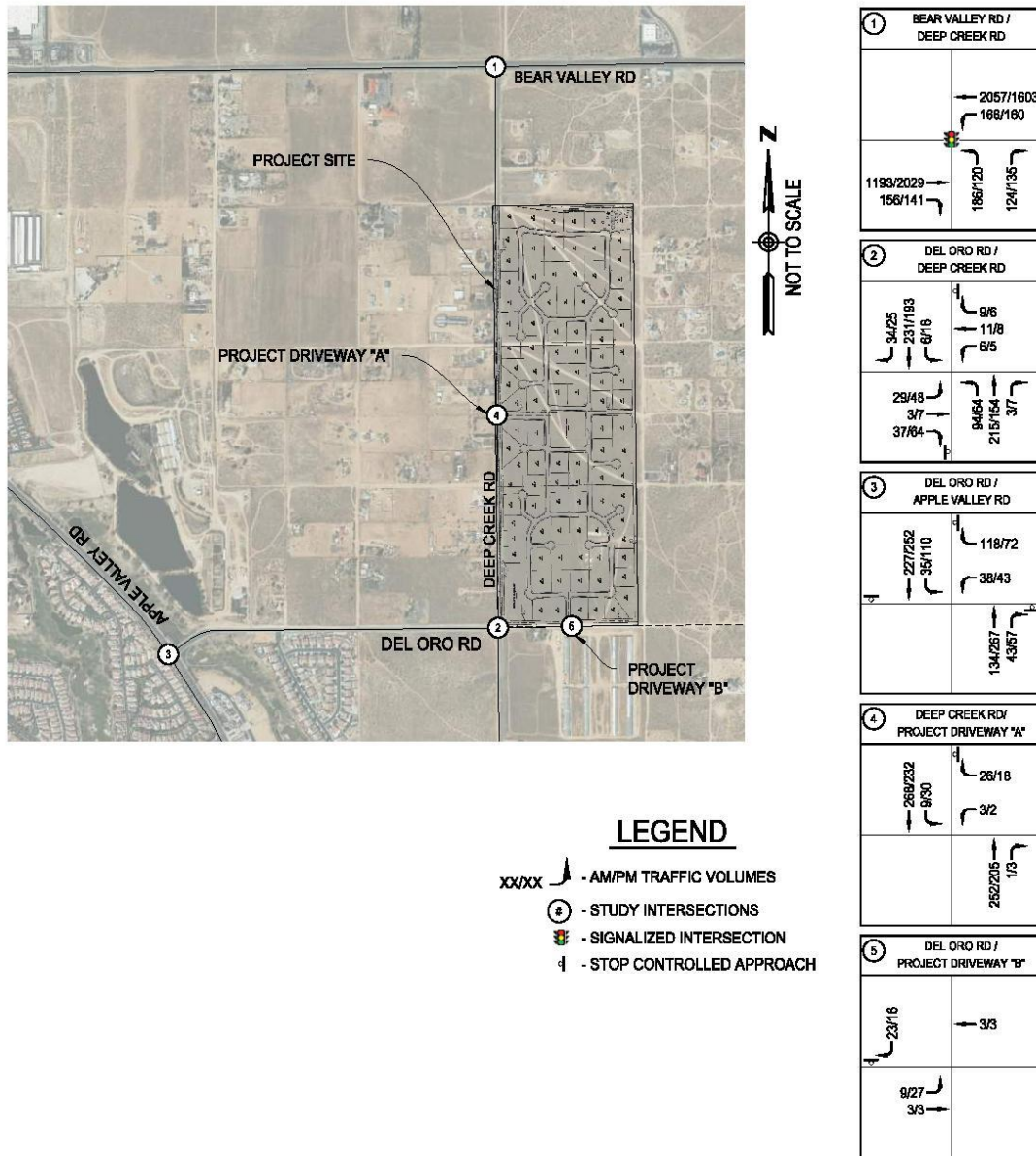


FIGURE 12: FUTURE PLUS PROJECT  
 TRAFFIC VOLUMES  
 DEEP CREEK ROAD AND DEL ORO ROAD  
 RESIDENTIAL DEVELOPMENT  
 APPLE VALLEY, CA



Design Name: Deep Creek Road and Del Oro Road Residential Development  
 Last Updated: Feb 12, 2021. Referred by: DM





## 9 SUMMARY OF VEHICLES MILES TRAVELED ANALYSIS

The VMT analysis screening assessment included in the approved scoping agreement concluded that the project was required to prepare a detailed analysis of project-generated VMT and its effect on VMT town-wide as part of the project's environmental clearance under CEQA.

The VMT analysis was prepared in accordance with the Town's adopted Resolution No. 2021-08 (Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)) which states that a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
2. The cumulative (2040) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population.

In addition to project-generated VMT, the Town adopted significance thresholds for a project's effect on VMT in Apple Valley. The resolution states that a project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

3. The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or
4. The cumulative link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition.

The term "link-level boundary Town-wide" refers to all vehicle miles of travel on all roadways with the town limits of Apple Valley. The following describes the key findings and the conclusions of the VMT analysis. The full report is in **Appendix D**.

### 9.1 Project-Generated VMT Analysis

The SBTAM model was used estimate project-generated VMT for both baseline (2016) and horizon year (2040) scenarios. The SBTAM socioeconomic database for each scenario were updated with the project land use to calculate project VMT. The databases were also used to obtain the town's population and employment to estimate service population.

**Table 9-1** on the following page presents the outcome of the project-generated VMT analyses for the baseline and horizon year scenarios. As shown in Table 9-1, in both the baseline and horizon year scenarios, the VMT/service population metric for the project is less than the Town of Apple Valley's general plan buildout significance threshold.

The outcome of the second analysis, the project's effect on town-wide VMT, is presented in **Table 9-2** on the following page. The SBTAM model was used to estimate the VMT on all roadways within the town's limits for the baseline and 2040 scenarios with and without the project. Comparing the resulting town-wide VMT with the project against the town-wide VMT without the project would indicate a significant project impact if the "with" project VMT / Service population was higher than the "without" project the metric.

**Table 9-2** shows that the VMT/Service population metric under the "with project" conditions compared to the metric under the "without project" conditions in both the 2016 and 2040 scenarios does not increase and does not satisfy the town's significance threshold described above.



**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**



*Draft Level of Service Conformance and  
Vehicle Miles Traveled (VMT) Analysis Report for the  
Proposed Deep Creek Road and Del Oro Road Residential Development  
February 9, 2023*

Table 9-1: Project-Generated VMT Analysis

Metric	2016 Baseline Conditions		2040 Conditions	
	Proposed Project	Town of Apple Valley General Plan Buildout (Threshold) [a]	Proposed Project	Town of Apple Valley General Plan Buildout (Threshold) [a]
Population	0		0	
Employment [b]	658		658	
Service Population	658		658	
OD VMT [c]	19,842		18,657	
OD VMT per service population	30.2	33.2	28.4	33.2
Notes: [a] Source: SBCTA VMT Screening Tool: <a href="https://www.gosbcta.com/vmtscreening">https://www.gosbcta.com/vmtscreening</a> . Metric is VMT / Service population. [b] Source: SCAG Employment Density Study Summary Report, October 31, 2001 (using 2,111 square feet per employee). [c] The project's Origin/Destination (OD) VMT derived from the San Bernardino Traffic Analysis Model (SBTAM) Source of analysis: General Technologies and Solutions (GTS)				

Table 9-2: Project Effect on Roadway VMT within Town of Apple Valley

Metric	2016 Baseline Conditions		2040 Conditions	
	With Project	Without Project	With Project	Without Project
Roadway VMT [a]	854,052	847,823	1,366,407	1,362,981
Service population [b]	91,771	91,113	127,464	126,806
VMT per service population	9.3	9.3	10.7	10.7
Notes: [a] Roadway VMT = sum of all vehicle miles traveled on all streets within the town limits of Apple Valley. [b] Service population = sum of residents and employees in Apple Valley in the scenario being analyzed. Source: 2016 and 2040 land use summaries from the San Bernardino Traffic Analysis Model (SBTAM) Source of analysis: General Technologies and Solutions (GTS)				

## 9.2 Conclusions of the VMT Analyses

The VMT analysis conducted to identify potentially significant project-generated VMT impacts under CEQA concludes that the proposed project generates a VMT / Service population less than the VMT / Service population representing buildout of Apple Valley's general plan and, therefore, does not cause a significant impact based on the town's adopted significance thresholds for project-generated VMT.

An analysis conducted to identify potentially significant impacts of the project's "effects on town-wide VMT" under CEQA concludes that the VMT / Service population metric for the baseline and horizon year scenarios "with the project" do not increase the metric over the "without project" scenarios. Therefore, the proposed project does not cause a significant impact based on the town's adopted significance thresholds for the project's effect on town-wide VMT.

## **APPENDIX F— JOSHUA TREE STUDY**

# PROTECTED PLANT PRESERVATION PLAN

CITY OF APPLE VALLEY, SAN BERNARDINO COUNTY,  
CALIFORNIA  
APN: 0434-042-32

*Prepared for:*

Merrell Johnson Engineering

*Prepared by:*

RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, CA 92345  
(760) 596-0017

**Principal Investigators:**

Ryan Hunter, Senior Environmental Scientist, Wildlife Biologist  
Jessica Hensley, Environmental Scientist, Biologist  
Brian Bunyi, Environmental Scientist, Wildlife Biologist



**Project No: RCA#2022-109 JT**

**July 27, 2022**



**TITLE PAGE**

**Date Report Written:** July 27, 2022

**Field Work Completed:** July 20, 2022

**Report Title:** Protected Plant Preservation Plan

**Project Location:** Apple Valley, California  
APN: 0434-042-32

**Prepared for:** Merrell Johnson Engineering

**Principal Investigators:** Ryan Hunter, Senior Environmental Scientist, Wildlife Biologist  
Jessica Hensley, Environmental Scientist, Biologist  
Brian Bunyi, Environmental Scientist, Wildlife Biologist

**Contact Information:** Randall C. Arnold, Jr.  
RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, California 92345  
(760) 596-0017  
[rarnold@rcaassociatesllc.com](mailto:rarnold@rcaassociatesllc.com)  
[www.rcaassociatesllc.com](http://www.rcaassociatesllc.com)

Ryan Hunter  
RCA Associates, Inc.  
15555 Main Street, #D4-235  
Hesperia, CA 92345  
(760) 998-7165  
[rhunter@rcaassociatesllc.com](mailto:rhunter@rcaassociatesllc.com)  
[www.rcaassociatesllc.com](http://www.rcaassociatesllc.com)

**Table of Contents**

<b>Section</b>	<b>Page</b>
1.0 Summary	1
2.0 Introduction and Project Description	2
3.0 Methodologies	3
4.0 Results	4
5.0 Conclusions	6
6.0 References	8
7.0 Certification	9
Appendix A – Figures	
Appendix B – City of Apple Valley Code: Chapter 9.76 County of San Bernardino Municipal Code: Chapter 88.01.060	



## **1.0 SUMMARY**

At the request of the project proponent, RCA Associates, Inc. surveyed an approximate 120-acre property located northeast of the intersection of Deep Creek Road and Del Oro Road in Apple Valley, California (Township 4 North, Range 3 West, Section 5, Apple Valley South, California Quadrangle, 1956) (Figures 1, 2, and 3).

The purpose of the survey was to evaluate the Joshua trees present on the site and determine which trees were suitable for relocation and which trees could be discarded prior to site clearing activities. This report provides the results of the Joshua tree survey performed on July 20, 2022. Following completion of the survey, RCA Associates, Inc. prepared this Protected Plant Preservation Plan to assist the project proponent with future relocation of the Joshua trees. Information on the Joshua trees which will need to be relocated-transplanted in the future is provided in Section 4.0. The City of Apple Valley Municipal code 9.76 stating the purpose of Joshua Tree preservation and the consequence of removing one and follows the County of San Bernardino Plant Protection Plan and Management (Chapter 88.01.060) to help protect and preserve desert vegetation, including Joshua trees. The requirements of the Ordinance (Chapter 88.01.060) are provided in Appendix B.

Based on the results of the field investigations there are 10 Joshua trees which occur within the boundaries of the property (Figures 1, 2, and 3). Based on the evaluation and analysis of each tree it was determined that 0 of the 10 Joshua trees (0.0%) are suitable for transplanting. If trees are deemed transplantable, they would be marked in green in Table 4-1. The 10 Joshua trees (100%) were determined to be unsuitable for transplanting due to a variety of factors such as size, condition, damage, dying, dead, excessive leaning, possibly disease, clonal, etc.

## 2.0 INTRODUCTION AND PROJECT LOCATION

The area surveyed is northeast of the intersection of Deep Creek Road and Del Oro Road in the city of Apple Valley, California (Figures 1 and 2). Current conditions on the property include a ruderal plant community showing signs of past grading activities. The biological resources on the site consist of ruderal plant community typical of the area with a variety of grasses (*Bromus spp.*), coyote melon (*Cucurbita californica*), bladder sage (*Scutellaria mexicana*), Joshua tree (*Yucca brevifolia*), rubber rabbitbrush (*Ericameria nauseosa*) and silver cholla (*Cylindropuntia echinocarpa*) observed on the site. The property is surrounded by residential properties on all sides (Figure 2).

Joshua trees occur throughout the Mojave Desert in Southern California and are typically found at an elevation of 400 to 1,800 meters (~1,200 to ~5,400 feet). Joshua trees within the western portion of the Mojave Desert typically receive more annual precipitation during “normal” years; consequently, cloning occurs more often resulting in numerous trunks sprouting from the same root system (Rowland, 1978). Joshua tree habitats provide habitat for a variety of wildlife species including desert woodrats (*Neotoma* sp.) and night lizards (*Xantusia* sp.) both of which utilize the base of the trees. A variety of birds also utilize Joshua trees for nesting such as hawks, common ravens, and cactus wrens. CDFW consider Joshua tree woodlands as areas that support relatively high species diversity and as such are considered to be a sensitive desert community. Joshua trees are also considered a significant resource under the California Environmental Quality Act (CEQA) and are included in the Desert Plant Protection Act, Food and Agricultural Code (80001 – 80006).

### 3.0 METHODOLOGIES

Pedestrian surveys were walked throughout the site and biologists from RCA Associates, Inc. evaluated each Joshua tree to determine which trees were suitable for relocation/transplanting based on a general health assessment. Each Joshua tree within the property boundary received a metal numbered tag which was affixed on the north side of each tree for orientation purposes during future transplanting. Surveyor flagging was also placed around those trees suitable for transplanting to facilitate future identification. The precise location and assessment of each tree was recorded using a Juniper Systems Cedar CT8X2 GPS tablet and a Nikon Forestry Pro II rangefinder was utilized to determine the extent of the property boundaries and accurate tree height. Those Joshua trees which occur on the property site are presented in Table 4-1 and the locations are provided in Figure 3.

In addition, a buffer extending out from the project boundary was surveyed visually out to 300-feet. Trees located within a 66-foot buffer from the project boundary were marked with coordinates and given designation of either mature (Adult) or not. Joshua trees that occur beyond the 66-foot buffer, and up to the 300-foot buffer were also marked, but given no distinction of life stage. There was a total of 37 Joshua trees observed outside of the project boundary and within the buffer zones (Figure 4).

The factors utilized to determine which Joshua trees were suitable for transplanting include the following factors:

1. Trees from about 1 foot in height up to approximately 12 feet,
2. No visible signs of damage to the tree such as absence of bark due to rodent or other animals,
3. Minimal number of branches (No more than 2 or 3 branches),
4. No excessive leaning of the tree,
5. No yellow or brown fronds,
6. Proximity to other Joshua trees (i.e., clonal), and
7. No exposed roots at the base of the tree.
8. Dying or dead

#### 4.0 RESULTS

There are 10 Joshua trees on the property and the GPS locations of the Joshua trees are provided in Table 4-1. A total of zero Joshua tree (0.0%) are suitable for relocation/transplanting based on the nine factors listed in Section 3.0 (Table 4-1). Joshua trees deemed suitable for transplanting they should be relocated/transplanted on-site, which is the preferable option, or to an off-site area approved by the City of Apple Valley. Those Joshua trees that are not suitable for relocation/transplanting due to size, health of the tree, presence of damage, excessive branches, excessive leaning, clonal, and exposed roots should be disposed of as per City requirements. There was a total of 37 Joshua trees located outside of the project boundary that fall within the 66-foot and 300-foot buffers which will be used to assess impacts to the species as a whole.

**TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**  
**99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32**

**Table 4-1: Joshua tree census. (Note: The GPS locations of the Joshua trees are provided below and those trees which are suitable for transplanting on-site as part of project landscaping are highlighted in green.)**

Total Number of Joshua Trees On Site	Joshua Trees to be Transplanted	Number of Clonal Trees	Number of Non-Clonal Trees	Number of Dead Trees
10	0	1	1	8

Joshua Tree	Condition	Life Stage	Location	Height (ft)	Panicles	Branches	Health Assessment	Number of Trunks	Transplantable
JT 1279	Dead		34.461565°, -117.220864°						No
JT 1278	Dead		34.464741°, -117.220939°						No
JT 1277	Dead		34.464613°, -117.221561°						No
JT 1276	Dead		34.463982°, -117.225053°						No
JT 1275	Dead		34.467457°, -117.221754°						No
JT 1274	Dead		34.467515°, -117.221720°						No
JT 1273	Good	Adult	34.467517°, -117.221611°	7	1	2	-Clonal -Greater than 12 ft -Excessive Branches	8	No
JT 1272	Good	Adult	34.467677°, -117.220894°	12	9	18			No
JT 1271	Dead		34.467126°, -117.221251°						No
JT 1270	Dead		34.467149°, -117.221565°						No



## 5.0 CONCLUSIONS

There are 10 Joshua trees located on the property and zero of the trees are suitable for relocation/transplanting. This conclusion was based on: (1) trees which were one foot or greater in height and less than twelve feet tall (approximate); (2) in good health; (3), two branches or less; (4) density of trees (i.e., no clonal trees); (5) no exposed roots; (6) and trees that are not leaning over excessively. As indicated in Table 4-1, the majority of the Joshua trees which were not suitable for relocation are dead and lying on the ground.

As of September 22, 2020, the California Department of Fish and Wildlife temporarily listed the western Joshua tree (*Yucca brevifolia*) as an endangered species until a final decision is made in 2022. Therefore, any attempt to remove the Joshua tree from its current position will require an Incidental Take Permit (ITP).

The City of Apple Valley's Municipal Code (9.76) instructs to follow the County of San Bernardino's ordinance (88.01.060), which requires preservation of Joshua trees given their importance in the desert community. A qualified City-approved biologist or arborist should be retained to conduct any future relocation/transplanting activities and should follow the protocol of the County's Municipal Code (Appendix B: Chapter 88.01.060). The following criteria will be utilized by the contractor when conducting any future transplanting activities.

A. The Joshua trees will be retained in place or replanted somewhere on the site where they can remain in perpetuity or will be transplanted to an off-site area approved by the city where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded as per City requirements.

B. Earthen berms will be created around each tree by the biologist prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.

C. Each tree will be moved to a pre-selected location which has already been excavated and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with

native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the trees and the trees were also flagged with surveyor's flagging. The biologist will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation.

## 6.0 REFERENCES

- Brittingham, S. and W. Lawrence.  
2000. Facilitation of *Yucca brevifolia* Recruitment by Mojave Desert Shrubs. Western North American Naturalist 60(4), pp. 374-383.
- County of San Bernardino.  
2009. Desert Native Plant Protection, Municipal Code: Chapter 88.01.060.
- Hickman, James C.  
The Jepson Manual Higher Plants of California. University of California Press. Berkeley, CA.  
3<sup>rd</sup> Edition. 1996.
- Holland, Robert F.  
1986 Preliminary Description of the Terrestrial Natural Communities of California. Prepared for the California Natural Diversity Database. California Department of Fish and Game. Sacramento, California. 160 pp.
- Johnson, H.  
1976 vegetation and Plant Communities of Southern California Deserts- a functional view. In Symposium proceedings: Plant communities of Southern California. June Latting, editor. California Native Plant Society, Spec. No. 2 Berkeley, CA.
- Munz, Philip A.  
1974. A Flora of Southern California. University of California Press, Berkeley, California. 1086 pp.

## 7.0 CERTIFICATION

I hereby certify the statements furnished above and in the attached exhibits, present the data and information required for this Joshua tree survey and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this survey was performed by Ryan Hunter, Brian Bunyi and Jessica Hensley.

Date: July 26, 2022 Signed: *Ryan Hunter*  
*Jessica Hensley*  
*Brian Bunyi*

Field Work Performed by: Ryan Hunter  
Senior Environmental Scientist/Wildlife Biologist

Jessica Hensley  
Environmental Scientist/Biologist

Brian Bunyi  
Environmental Scientist/Wildlife Biologist

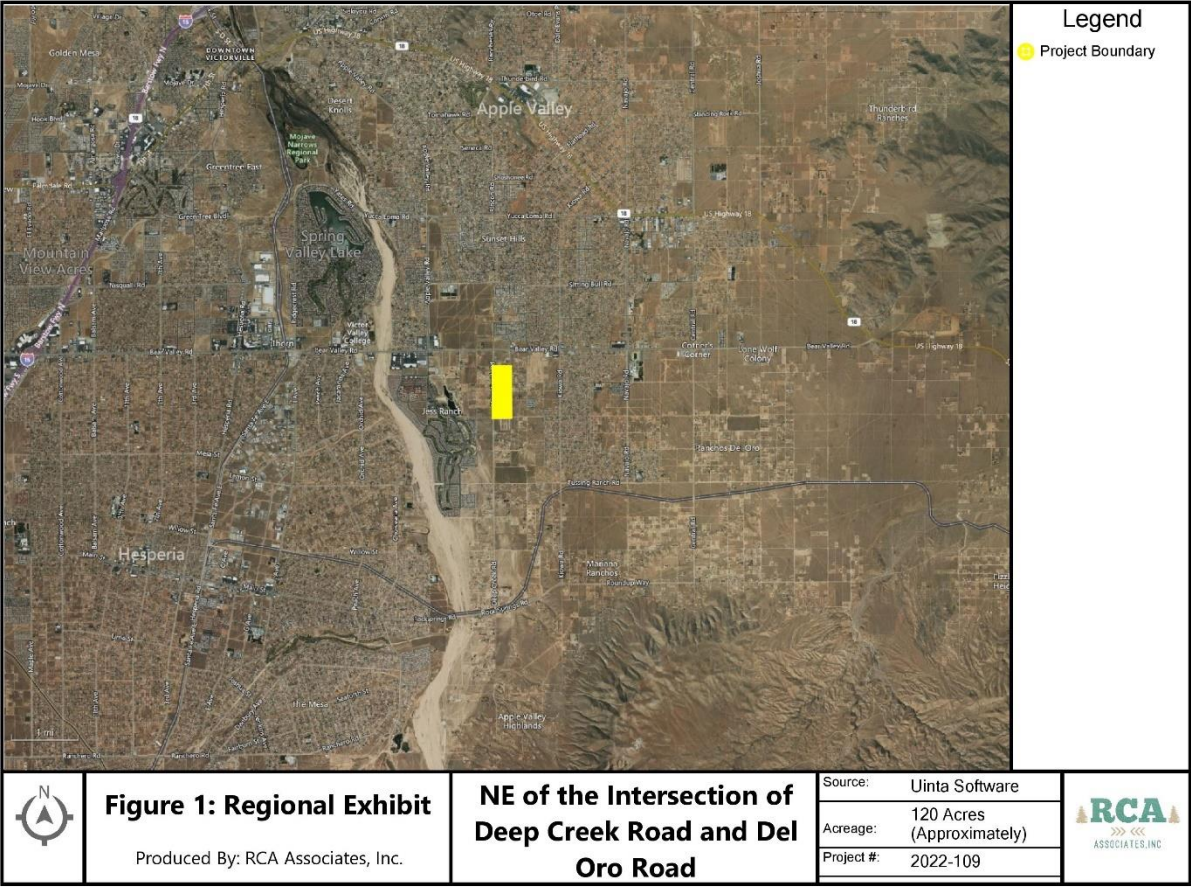


**APPENDIX A**

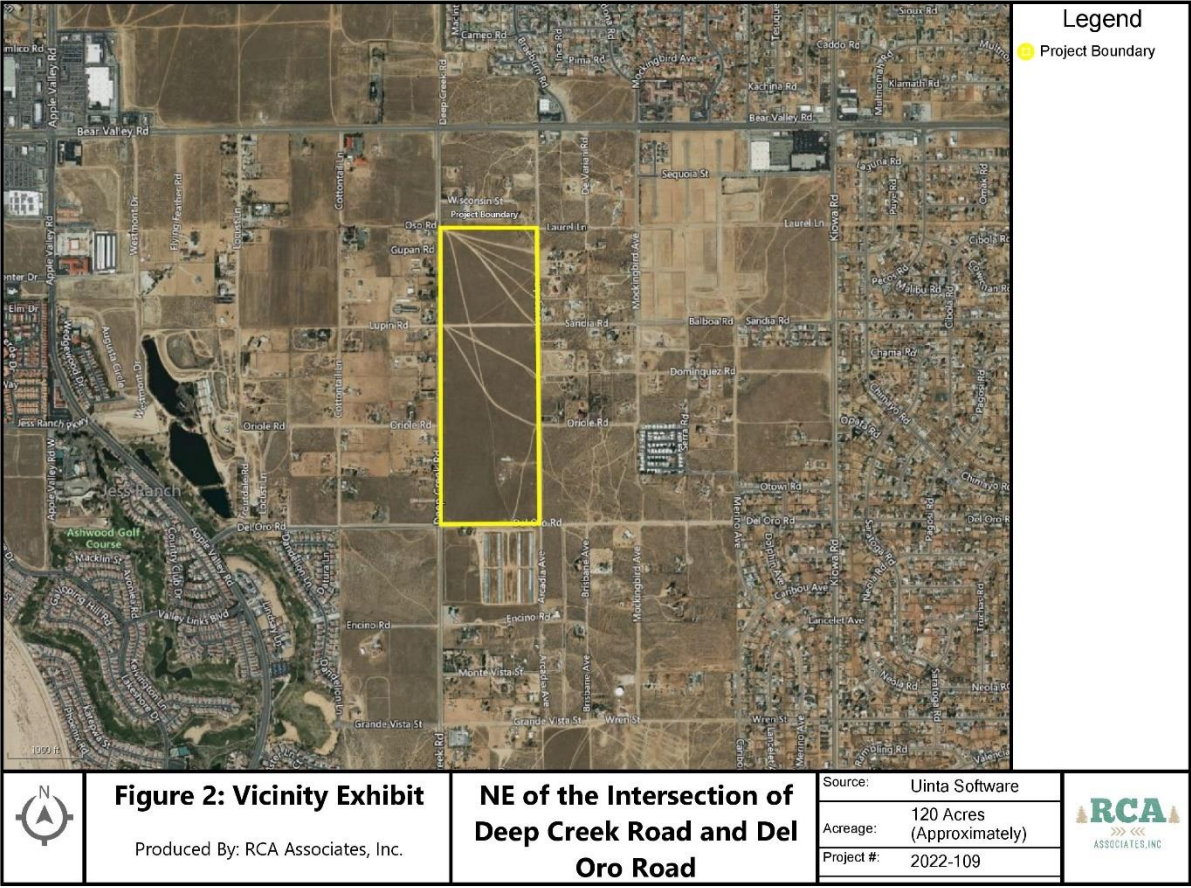
**Figures**



TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32



TOWN OF APPLE VALLEY • INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION  
99 UNIT SINGLE-FAMILY DEVELOPMENT (120 ACRES) • TTM 20453 • APN 0434-042-32





**Legend**

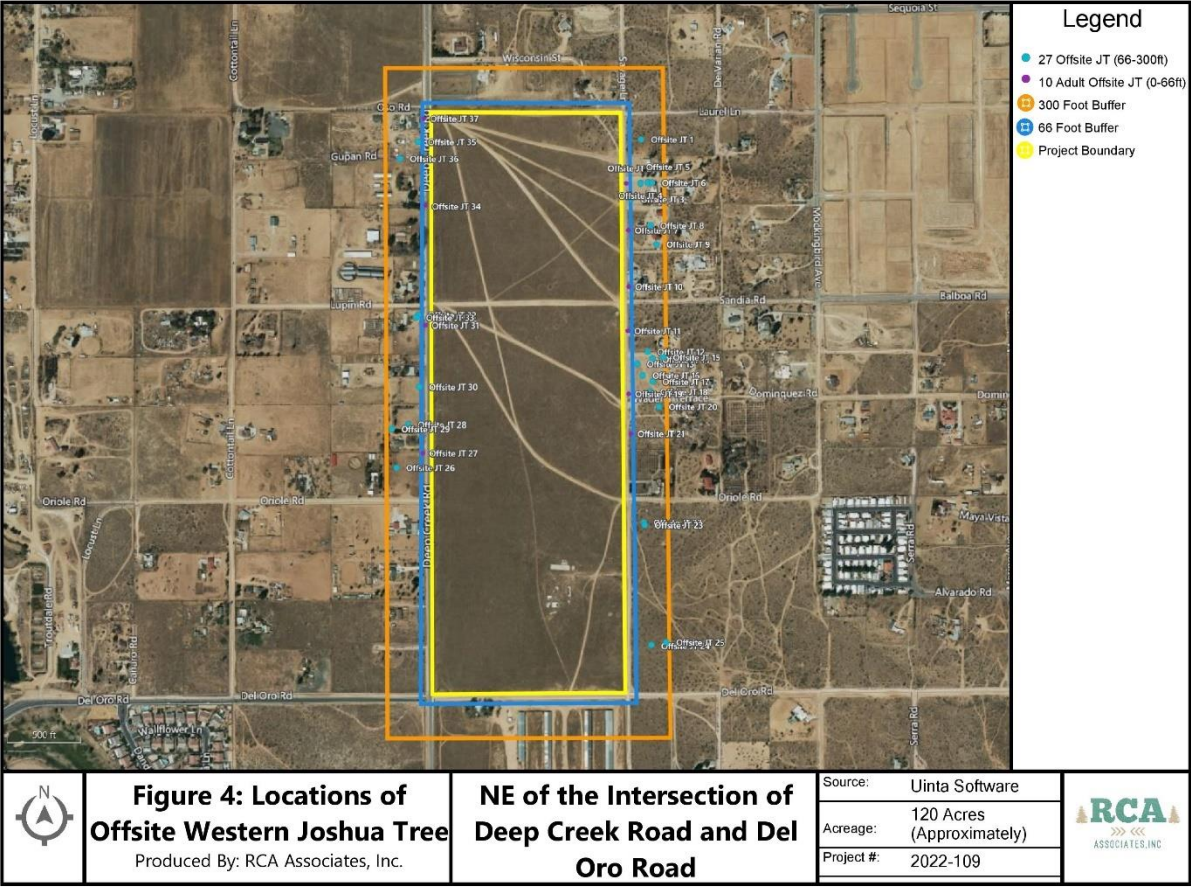
- 0 Transplantable JT
- 10 Non Transplantable JT
- Project Boundary

**Figure 3: Locations of Western Joshua Tree**  
Produced By: RCA Associates, Inc.

**NE of the Intersection of Deep Creek Road and Del Oro Road**

Source:	Uinta Software
Acreage:	120 Acres (Approximately)
Project #:	2022-109

**RCA ASSOCIATES, INC.**



**APPENDIX B**

**City of Apple Valley  
Municipal Code: 9.76**

**County of San Bernardino  
Municipal Code: Chapter 18.01.060**



*Town of Apple Valley*

*Development Code 2010*

## **CHAPTER 9.76 PLANT PROTECTION AND MANAGEMENT**

### **SECTIONS:**

9.76.010 General Provisions .....	1
9.76.020 Desert Native Plant Protection .....	5
9.76.030 Riparian Plant Conservation .....	7
9.76.040 Joshua Trees .....	7

### **9.76.010 GENERAL PROVISIONS**

- A. Purpose.** The Town finds that it is in the public interest to promote the continued health of this Town's abundant and diverse plant resources by providing regulations and guidelines for the management of the plant resources in the Town of Apple Valley on property or combinations of property under private or public ownership for the following purposes:
1. To promote and sustain the health, vigor and productivity of plant life and aesthetic values within the Town through appropriate management techniques;
  2. To conserve the native plant life heritage for the benefit of all, including future generations;
  3. To protect native trees and plants from indiscriminate removal, and to regulate such activity;
  4. To provide a uniform standard for appropriate removal of native trees and plants in public and private places and streets to promote conservation of these valuable natural resources;
  5. To protect and maintain water productivity and quality in local watersheds; and
  6. To preserve rare plants and protect animals with limited or specialized habitats.
- B. Intent.** The general provisions established by this Section shall also apply to Sections 9.76.020, 9.76.030, and 9.76.040 of this Chapter.
- C. Scope**
1. The provisions of this Chapter shall apply to all private land within the Town of Apple Valley and to public lands owned by the Town except as specified by the provisions of this Chapter.
  2. **Exceptions.** The provisions of this Chapter are not applicable to the removal of any regulated native tree or desert native plant, except for Joshua Trees as provided in Section 9.76.040, when such are removed in accordance with any of the following listed situations:
    - a. Removal from lands owned by the United States Government, State of California or local governmental entity, excluding Special Districts.
    - b. Removal by any public utility subject to jurisdiction of the Public Utilities Commission or any other constituted public agency, including franchised Cable TV, where to establish or maintain safe operation of facilities under their jurisdiction, trees are pruned or braced.
    - c. Removal required by other codes, ordinances or laws of the Town of Apple Valley, San Bernardino County, the State of California or the United States.
    - d. Removal of native trees and plants which are an immediate threat to the public health, safety or welfare and require emergency removal to prevent probable damage to a structure or injury to people or fenced animals.
    - e. Removal as part of a bona fide agricultural activity as determined by the Town Manager, or designee, which is:
      - 1) Conducted under a land conservation contract; and/or
      - 2) An existing agricultural activity; and/or

*Adopted April 27, 2010*

*Chapter 9.76 Plant Protection and Management*  
1

*Town of Apple Valley*

*Development Code 2010*

- 3) A proposed bona fide agricultural activity if the Town Manager, or designee, is given thirty (30) days written notice of the removal describing the location of the land, the nature of the proposed activity, and the proposed sources of water for the activity. The Town Manager, or designee, shall notify the landowner in writing prior to the elapse of the 30-day period if, in the opinion of the Town Manager, or designee, the activity is not a bona fide agricultural activity, or else the activity shall be deemed bona fide.

A bona fide agricultural activity is one which is served by a water distribution system adequate for the proper operation of such activity.

- f. Any regulated native plant or tree, except Joshua tree, that is within twenty (20) feet of a structure on the lot that was constructed or set down under a County or Town development permit.

3. **Conditions.** The permits authorized by this Chapter may be subject to conditions required by the reviewing authority. Such conditions may specify criteria, methods and persons authorized to conduct the proposed activities which are subject to the permit. Where applicable, regulated trees and plants may be required to be transplanted and/or stockpiled for future transplanting.

**D. Removal Permit**

1. A removal permit shall be required for the removal of any native tree or plant that is subject to the provisions of this Chapter. Disturbing, moving (transplanting or otherwise), removal or destruction of an existing Joshua Tree(s) shall be subject to the provisions of Section 9.76.040.
2. A land use application, a building permit and all other development permits (e.g., grading, mobilehome setdowns, etc.), shall consider and include a review of any proposed application and/or development permit shall be a permit for the removal of native trees or plants, if such land use application or development permit specifically reviews and approves such removals. Such reviews shall consider and require compliance with the provisions of this Chapter.
3. The reviewing authority may require certification from an appropriate tree expert or desert native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this Chapter.
4. Removals of native trees or plants that are not requested in conjunction with a land use application or development permit may be accomplished only under a permit issued by the Town of Apple Valley Planning Division, subject to the provisions of this Chapter.
5. The Building Official shall require a pre-construction inspection prior to approval of development permits.
6. The duration of a plant or tree removal permit when issued in conjunction with a land use application and/or a development permit shall be coterminous with the duration of the associated application or permit, unless otherwise specified. The Reviewing Authority shall specify the expiration date for all other tree and/or plant removal permits.

**E. Findings for Removal.** The Reviewing Authority shall authorize the removal of a native tree or plant subject to provisions of this Chapter only if the following findings are made:

1. The removal of the native tree or plant does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
2. The removal of the native tree or plant is justified for one of the following reasons:
  - a. The location of the native tree (excluding Joshua Trees) or plant and/or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or

**Chapter 9.76 Plant Protection and Management**

*Adopted April 27, 2010*

*Town of Apple Valley*

*Development Code 2010*

ground disturbing activity. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.

- b.* The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property.
- c.* The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the Town Engineer.
- d.* The native tree or plant or its presence interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.
- e.* The condition or location of the native plant or tree is adjacent to and in such close proximity to an existing structure that the native plant or tree has or will sustain significant damage.

- F. Plot Plan Requirements.* Prior to the issuance of a native tree or plant removal permit in conjunction with a development permit and/or approval of a land use application which authorizes such removal, a plot plan shall be approved by the appropriate Town Review Authority (County Certified Plant Expert, Planning Commission or Town Council) for each site indicating exactly which trees or plants are authorized to be removed. The required information can be added to any other required plot plan.

Prior to issuance of development permits in areas with native trees or plants that are subject to the provisions of this Chapter, a pre-construction inspection shall be conducted by the appropriate authority. Such pre-construction inspections may be combined with any other required inspection.

- G. Construction Standards.* During construction and prior to final inspection under a development permit, the following standard shall apply unless otherwise approved in writing by a Desert Native Plant Expert:

- 1.* Native tree trunks and plants shall not be enclosed within roof lines or decking.
- 2.* Utilities, construction signs, or other hardware shall not be attached so as to penetrate or abrade any live native tree or plant.
- 3. Grade alterations.* There shall be no grade alterations which buries any portion of a native tree or plant or significantly undercuts the root system within the dripline.
- 4.* "Trap Fencing" shall be utilized to prevent compaction damage to the root zone; installed a minimum of twenty-five (25) percent beyond the dripline.

- H. Fees.* Where permits or reviews are required by this Chapter and they are not incorporated into other review or permit procedures, fees shall be paid in accordance with the Town of Apple Valley Schedule of Fees.

- I. Enforcement.* The provisions of this Chapter shall be enforced by any authorized member of the Building and Safety, Code Enforcement or Planning Division.

- 1. Extension of time.* If any of the land governed by this Chapter shall be subject to snow, flooding, or other condition which shall render compliance with the provisions of this Chapter within the specified time periods impractical because of inaccessibility, an enforcement officer may extend the period of time for compliance.
- 2.* A peace officer or any authorized enforcement officer may, in the enforcement of this Chapter, make arrests without warrant for a violation of this Chapter, which he or she may witness, and may confiscate regulated native trees or plants, or parts thereof which are unlawfully harvested, possessed, sold or otherwise obtained in violation of this Chapter. Also any designated enforcement officer is hereby authorized and directed to

*Adopted April 27, 2010*

*Chapter 9.76 Plant Protection and Management*

3



enter in or upon any premises or other place, train, vehicle or other means of transportation within the Town of Apple Valley, which is suspected of containing or having present therein or thereon native plants in violation of this Chapter in order to examine permits and wood receipts and observe tags and seals and to otherwise enforce the provisions of this Chapter.

3. When any power or authority is given by any provision of this Chapter to any person, it may be exercised by any deputy, inspector or agent duly authorized by that person. Any person in whom the enforcement of any provision of this Chapter is vested has the power of a peace officer as to that enforcement, which shall include state or federal agencies with which cooperative agreements have been made by the Town to enforce the provisions of this Chapter.
4. No person shall remove or damage all or part of any native tree or plant on another property without first obtaining notarized written permission from the landowner and any required Town permits, wood receipts or tags and seals. Also, it is unlawful for any person to falsify any document offered as evidence of permission to enter upon the property of another to harvest all or parts of a native tree or plant, whether it be alive or dead.
5. No person, except as provided in this Chapter, shall harvest, offer for sale, destroy, dig up or mutilate or have, in his or her possession any regulated native plant or tree, or the living or dead parts of such unless the plant or tree was harvested or obtained under a valid Town permit, and where applicable, a valid wood receipt on his or her person. Any such person shall exhibit the permit, wood receipt, tags and/or seals upon request for inspection by any duly authorized Town Enforcement Officer or any peace officer. No wood receipt or tag and seal is valid unless it is issued with a valid Town permit.
6. No person, except as provided in this Chapter, shall cause a disturbance of land which results in the removal of any regulated native trees or plants (e.g., grading or land clearing) and which is not in conjunction with any other development permit without first obtaining a native plant harvesting or tree removal permit issued by the appropriate reviewing authority.

**J. Penalties.** Penalties shall include the following and any other penalties specified by Sections 9.76.020, 9.76.030, and 9.76.040 of this Chapter.

**1. ILLEGALLY REMOVED NATIVE TREE OR DESERT NATIVE PLANT PENALTY.**

In addition to other penalties and fees imposed by this code or other law, any person, firm or corporation convicted of a violation of the provisions of this Chapter shall be guilty of a misdemeanor upon conviction. When one or more plants or trees are removed in violation of the provisions of this Chapter, the removal of each such separate plant or tree shall be a new and separate offence. The penalty for such offense shall be a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000) or six months in jail or both. Payment of any penalty herein provided shall not relieve a person, firm or corporation from the responsibility of correcting the condition resulting from the violation.

**2. ILLEGALLY REMOVED NATIVE TREE OR DESERT NATIVE PLANT REPLACEMENT REQUIREMENT.**

- a. In addition to other penalties imposed by this Code or other law, any person, firm or corporation convicted of violating the provisions of this Chapter regarding improper removal of regulated native trees or plants shall be required to retain, as appropriate, a tree or Desert Native Plant Expert to develop and implement a replacement program. Such expert shall determine the appropriate number, size, species, location and planting conditions for replacement plants or trees in sufficient quantities to revegetate the illegally disturbed area.





*Town of Apple Valley*

*Development Code 2010*

3. Any desert native plant on the site which is determined by the Town Manager, or designee, or other Reviewing Authority, as requiring transplanting has or will be transplanted or stockpiled for transplanting in accordance with methods approved by Town Manager, or designee. A Desert Native Plant Expert shall supervise and manage any required transplanting of desert native plants.
- E. Subject Desert Native Plants.** The following desert native plants are subject to the regulations specified by this Chapter. In all cases the Botanical names shall govern the interpretation of this Chapter.
1. **Regulated Desert Native Plants.** The following desert native plants or any part thereof except the fruit, shall not be harvested or removed except under a permit issued by the Town Manager, or designee:
    - a. The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
      - 1) Dalca, Spinosa (smoketree).
      - 2) All species of the family Agavaceae (century plants, nolinias, yuccas, cacti). Including the following known to Apple Valley:
        - a) Mohave Yucca (*Yucca schidigera*)
        - b) Lords candle (*Yucca whipplei*)
        - c) Barrel cactus (*Ferocactus acanthodes*)
      - 3) All species of the genus *Prosopis* (mesquites).
    - b. Creosote Rings, ten feet or greater in diameter.
    - c. All Joshua trees (mature and immature), subject to the provision of Section 9.76.040.
  2. All plants protected or regulated by the State Desert Native Plant Act (i.e., Food and Agricultural Code 80001, et. seq.) shall be required to comply with the provisions of those statutes prior to the issuance of any county development permit or land use application approval. The Town Manager, or designee, is responsible for the issuance of any required wood tags, seals or permits.
- F. Enforcement.** In addition to the enforcement provisions and penalties prescribed in this Chapter of the Code and/or the State Food and Agricultural Code, Division 23, Chapter 7, the following shall apply:
1. Upon conviction of a violation of this Chapter, all Desert Native Plant Harvesting permits issued to the person convicted shall be revoked and the permittee shall be required to surrender any unused tags and seals to the Town Manager, or designee, and no new or additional permits shall be issued to the permittee for a period of one year from the date of conviction.
  2. Upon the second conviction, all permits issued to the person convicted shall be revoked and the permittee shall be required to surrender any unused tags and seals, or no additional permits shall be issued to the permittee at any time in the future from the date of such second conviction.
  3. The Town Reviewing Authority may revoke any permit issued if the permittee willfully fails to comply with all of the conditions or stipulations of the permit.
  4. Each permit authorizing the possessing of desert native plants or live or dead mesquite, palo verde, or ironwood species of trees which are removed for wood shall be accompanied by a sufficient number of tags and seals or wood receipt. Such tags, seals or wood receipts shall be issued, transported, and may be transferred to other parties in accordance with the California Desert Native Plant Act, as amended.
- G. Definitions.** Terms and phrases used within this Section shall be defined by the Food and Agricultural Code.

**Chapter 9.76 Plant Protection and Management**

*Adopted April 27, 2010*

6

#### 9.76.030 RIPARIAN PLANT CONSERVATION

- A. **Purpose.** The Town finds that it is in the public interest to promote healthy and abundant riparian habitats. Riparian habitats are located along the sides of canyon bottoms, streams and rivers, providing watershed protection as well as control transmission and storage of natural water supplies. Riparian areas provide a unique wildlife habitat and contribute to an attractive environment. Riparian areas also provide natural soil erosion and sedimentation control protecting stream banks subject to erosion and undercutting. In addition riparian areas provide sufficient shade to reduce temperature and evaporation and the growth of algae in streams. The provisions of this Chapter are designed to augment and coordinate with the responsibilities of the California Department of Fish and Game.
- B. **Scope**
1. The provisions of this Chapter shall apply to all riparian areas growing on private land within the Town of Apple Valley and to riparian areas growing on public land owned by the Town of Apple Valley, except as specified by this Chapter.
  2. **Exceptions.** The provisions of this Chapter are not applicable to emergency Flood Control District operations or water conservation measures established and authorized by an appropriate independent Special District with such responsibility.
- C. **Subject Areas and Plants.** Except as otherwise provided or excepted by the provisions of this Chapter, the removal of any vegetation within two hundred (200) feet of the bank of a stream indicated as a blue line on a United States Geological Survey Quadrangle (topographic) map or indicated as a protected riparian area on a community or specific plan, shall be subject to a tree or plant removal permit in accordance with the procedures detailed by this Chapter for each respective regional area and shall be subject to environmental review. Any necessary conditions of approval for removal of riparian vegetation may be imposed in addition to, and in combination with, any condition imposed pursuant to this Chapter.

#### 9.76.040 JOSHUA TREES

- A. **Intent.** It is the stated intent and desire of the Town Council of the Town of Apple Valley to recognize and preserve the contribution that Joshua Trees have made to the desert environment and, more specifically, to the Town's "Better Way of Life". In conformance with this recognition, no existing Joshua Tree shall be disturbed, moved (transplanted or otherwise), removed or destroyed unless such disturbance, move, removal or destruction is first reviewed and approved by the Town of Apple Valley. The Town Manager, or designee, shall be responsible for review and approval of any request to disturb, move (transplant or otherwise), remove or destroy any existing Joshua Tree located on any property within any zoning district in the Town of Apple Valley. Forms for such review shall be available within the Planning Division.

Further, while it is the intent and desire of the Town to preserve and protect all Joshua Trees, this intent and desire shall be balanced against the community's need for growth and the development rights of individual property owners. To achieve this preservation and protection, while protecting both the property rights of property owners and the community's desert environment, anyone submitting an application to disturb, move, remove or destroy an existing Joshua Tree shall use all means necessary to retain and preserve such Tree(s) in its native (present) location in considering and presenting said Tree Disturbance application. This application shall take into consideration lot configuration, potential property development (buildable envelope), onsite circulation and all associated and related infrastructure needed to support construction within the buildable envelope. Further, persons submitting an application for a discretionary review or for any subdivision of land within the Town of Apple Valley upon which a Joshua Tree(s) is present, shall use all reasonable means available to retain and preserve the Tree(s) in its native (present) location in considering and presenting said application or subdivision request with regard to lot location and configuration, potential property development (buildable envelope), circulation system and all associated and related infrastructure.

*Town of Apple Valley*

*Development Code 2010*

- B. *Retention in Place.*** It is acknowledged that community development may be more appropriately served if some existing Joshua Trees are allowed to be relocated. The following shall be the minimum criteria for the preservation of Joshua Trees in place. While Joshua Trees which do not conform to the following criteria must be preserved, they may be transplanted to another location on the same property or may be made available for adoption through the Town's Joshua Tree Preservation and Adoption Program. A Joshua Tree(s) which conforms to the following shall be preserved in place unless its removal, transplantation or destruction is approved as prescribed within this Section 9.76.040 of the Town of Apple Valley Municipal Code.

For any Joshua Tree(s) which conform to the criteria listed below, for which the property owner/applicant has made a request for a Building Permit, application for a discretionary review or application for a subdivision of land within the Town of Apple Valley, said owner/applicant shall submit, as part of the application for approval, documentation of their best efforts to retain and preserve all Joshua Tree(s) within the limits of the development or subdivision in its native (present) location. Such documentation of best effort shall include how alternative lot configurations (including building envelopes on lots with existing Tree(s)), circulation, physical or environmental constraints of the site, allow no alternative subdivision configuration which would retain and preserve the Tree(s) in its native (present) location.

1. A Joshua Tree that is known, by historic record, including pictures or written description, to be at least forty (40) years old.
2. A Joshua Tree which has a width of at least fifteen (15) feet as measured from the furthest point of outstretched branches (measured parallel to the ground).
3. A Joshua Tree which is at least fifteen (15) feet in height as measured from the base of the trunk to the highest point of the Tree.
4. A Joshua Tree which has a trunk measuring at least twelve (12) inches in diameter as measured four (4) feet from the ground.

- C. *Transplantation.*** Transplanting approved by the Town of Apple Valley must be initiated and completed under the supervision of a Desert Native Plant Expert<sup>(1)</sup>. Approval of such transplant must take into consideration the time of year, the plant's original and transplanted physical orientation, prevailing wind direction, soil type of the original and transplanted locations, and other related attributes which may affect the successful transplantation of the Joshua Tree(s) in question as determined by the Town and the retained Botanist.

Joshua Trees that are proposed to be removed shall be transplanted or stockpiled for future transplanting wherever possible. In the instance of stockpiling and/or transplanting the permittee has submitted and has had the approval of a Joshua Tree maintenance plan prepared by a Desert Native Plant Expert<sup>(1)</sup>. This plan shall include a schedule for maintenance and a statement by the Desert Native Plant Expert that this maintenance plan and schedule will be implemented under his/her supervision. The schedule shall include the requirement that a maintenance report is required at the end of the project or at six (6) month intervals, evidence to the satisfaction of the Building Official that the Desert Native Plant Expert has supervised the scheduled maintenance to the extent that all transplanted and stockpiled plants have been maintained in such a manner to insure the highest practicable survival rate. In the event that this report is not satisfactory, a tree and plant replacement plan and implementation schedule prepared by a Desert Native Plant Expert may be required by the Building Official.

- 
- (1) The Town's Desert Native Plant Expert is one of the following:
- a. State of California Agricultural Biologist, or
  - b. State of California Registered Forester, or
  - c. I.S.A. Certified Arborist, or
  - d. County Certified Plant Expert, or
  - e. Others approved by the Town's Building Official.

*Chapter 9.76 Plant Protection and Management*

*Adopted April 27, 2010*



*Town of Apple Valley*

*Development Code 2010*

- D. Noticing.** To promote awareness of the availability and disposition of Joshua Trees within the community, in addition to the Noticing requirements specified within Chapter 9.13 "Public Hearings and Notice", the Planning Division of the Town of Apple Valley shall incorporate the following language into any Legal Notice for the subdivision of land or the review, for possible approval, of any discretionary application, to advise all interested parties that an existing Joshua Tree(s) may be affected, transplanted or removed by the approval and development of the discretionary request:

"One or more existing Joshua Tree(s) may be affected, transplanted or removed by the approval and development of the request under consideration identified in this Legal Notice."

- E. Tree Program.** In the Town's effort to retain and preserve, in place, existing Joshua Trees, the Planning Division of the Town of Apple Valley shall establish and maintain a Joshua Tree Preservation and Adoption Program. This Program shall be a listing, available to the public, of locations where individuals have applied to disturb, move (transplant or otherwise), remove or destroy an existing Joshua Tree(s). The Program shall include the name of the property owner, the address of the property containing the Joshua Tree(s), a mailing address for the property owner, a daytime contact phone number, the number of Trees disturbed, moved, removed or destroyed, and the approximate size, physical characteristics and physical condition of the available Tree(s) as of the date the Tree(s) was listed on the program. The Program shall also list a date that each individual Tree was disturbed, moved, removed or destroyed.

No Joshua Tree(s) shall be approved for transplantation more than once in any ten (10) year period. Although no Joshua Tree(s) may be approved for transplantation more than once in any ten (10) year period, the Planning Commission may, at the time of a discretionary review, approve an interim location, for up to one (1) year for storing Joshua Tree(s) to allow for a phased development of a project or property.

Said Joshua Tree Preservation and Adoption Program will include a listing of individuals whose property has a Joshua Tree(s) that is available to be transplanted to another location, the name of the property owner, the address of the property containing the Joshua Tree(s), a mailing address for the property owner, a daytime contact phone number, the number of trees available for adoption, and the approximate size, physical characteristics and physical condition of the available Tree(s).

The Program may also include, reviewed and updated annually, a list of the names, mailing addresses and daytime contact phone number of individuals who have expressed a desire to receive transplantable Joshua Tree(s).

- F. Findings for Removal.** The Reviewing Authority shall authorize the removal of a Joshua Tree(s) subject to provisions of this Chapter only if the following findings are made:

1. The removal of the Joshua Tree(s) does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
2. The removal of the Joshua Tree(s) is justified for one of the following reasons:
  - a. The location of the Joshua Tree(s) or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity as determined by the Town Manager, or designee. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.
  - b. The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject to adjoining private property.

*Adopted October 24, 2000*

*Chapter 9.76 Plant Protection and Management*

9





*Town of Apple Valley*

*Development Code 2010*

Payment of any penalty herein provided shall not relieve a person, firm or corporation from the responsibility of correcting the condition resulting in the violation.

In addition to other penalties imposed by this Code or other law, any person, firm or corporation convicted of violating the provisions of this Chapter regarding improper removal of regulated native trees or plants shall be required to retain, as appropriate, a tree or Desert Native Plant Expert to develop and implement a replacement program. Such expert shall determine the appropriate number, size, species, location and planting conditions for replacement plants or trees in sufficient quantities to revegetate the illegally disturbed area.

If it is inappropriate to revegetate the illegally disturbed area, another appropriate location (e.g., public parks) may be substituted at the direction of the court.

The violator shall post a bond in an amount sufficient to remove and reinstall plant/tree materials that were planted as a part of such a replacement program and failed within two (2) years.

- I. Definition.** Disturbance shall be acts of man which, as determined by the Town's Native Plant Expert, directly result in physical harm or damage to a Joshua Tree or which can be seen with reasonable certainty to cause the deterioration of the environmental setting around the Tree or interferes with the Tree's potential for growth and reproduction or causes direct physical contact/damage to the plant.

The determination of the Town's Native Plant Expert may be challenged before the Director and, subsequently to the Town Manager, where the facts upon which the Native Plant Expert based his/her determination shall be presented for consideration and which facts demonstrate with reasonable certainty that the Joshua Tree in question has been, is being or will be adversely harmed by the act(s) in question. The decision of the Town Manager shall be final.

*Adopted October 24, 2000*

*Chapter 9.76 Plant Protection and Management*  
11

---

## **CHAPTER 88.01 PLANT PROTECTION AND MANAGEMENT**

---

### **Sections:**

- 88.01.010 Purpose
- 88.01.020 Applicability
- 88.01.030 Exempt Activities
- 88.01.040 General Permit Application and Review Requirements
- 88.01.050 Native Tree or Plant Removal Permits
- 88.01.060 Desert Native Plant Protection
- 88.01.070 Mountain Forest and Valley Tree Conservation
- 88.01.080 Riparian Plant Conservation
- 88.01.090 Tree Protection from Insects and Disease

### **88.01.010 Purpose**

This Chapter provides regulations and guidelines for the management of plant resources in the unincorporated areas of the County on property or combinations of property under private or public ownership. The intent is to:

- (a) Promote and sustain the health, vigor and productivity of plant life and aesthetic values within the County through appropriate management techniques.
- (b) Conserve the native plant life heritage for the benefit of all, including future generations.
- (c) Protect native trees and plants from indiscriminate removal and to regulate removal activity.
- (d) Provide a uniform standard for appropriate removal of native trees and plants in public and private places and streets to promote conservation of these valuable natural resources.
- (e) Protect and maintain water productivity and quality in local watersheds.
- (f) Preserve habitats for rare, endangered, or threatened plants and to protect animals with limited or specialized habitats.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

**88.01.020 Applicability**

The provisions in this Chapter apply to the removal or relocation of regulated trees or plants and to any encroachment (for example, grading) within the protected zone of a regulated tree or plant on all private land within the unincorporated areas of the County and on public lands owned by the County, unless otherwise specified. Nothing in this Chapter shall relieve nor be interpreted to exempt a development from complying with applicable State or Federal laws and regulations.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

**88.01.030 Exempt Activities**

The provisions in this Chapter, except those of Section 88.01.090 (Tree Protection From Insects and Disease), shall not apply to the removal of regulated trees or plants that may occur in the following situations. Removal actions shall not authorize the removal of perch trees within an identified American Bald Eagle habitat.

- (a) **Timber operations.** Removal as part of a timber operation conducted in compliance with the Z'berg-Nejedly Forest Practice Act of 1973 (Public Resources Code Section 4526 et seq.).
- (b) **Government owned lands.** Removal from lands owned by the United States, State of California, or local governmental entity, excluding Special Districts (i.e., Special Districts shall be subject to the provisions of this Division.).
- (c) **Public utilities.** Removal by a public utility subject to jurisdiction of the Public Utilities Commission or any other constituted public agency, including franchised cable TV, where to establish or maintain safe operation of facilities under their jurisdiction, trees are pruned, topped, or braced.
- (d) **State agencies.** Removal by, or under the authority of, the State of California:
  - (1) Department of Forestry and Fire Protection.
  - (2) Forest Improvement Program.
  - (3) Agricultural Conservation Program.
- (e) **Government laws.** Removal required by other codes, ordinances, or laws of the County, State, or United States.
- (f) **Emergency.** Removal of native trees and plants that are an immediate threat to the public health, safety, or welfare and that require emergency removal to prevent probable damage to a structure or injury to people or fenced animals.

*San Bernardino County Development Code*

*Plant Protection and Management*

*88.01*

- (g) **Forest stocking control program.** Removal as part of a stocking control program prepared by a California Registered Professional Forester.
- (h) **Fire hazard reduction program.** Removal as part of a fire hazard reduction program approved by the Fire Chief.
- (i) **Bona fide agricultural activity.** Removal as part of a bona fide agricultural activity, as determined by the Director, which is one of the following:
  - (1) Conducted under a land conservation contract.
  - (2) An existing agricultural activity, including expansions of the activity onto undisturbed contiguous land.
  - (3) A proposed bona fide agricultural activity (i.e., an agricultural activity that is served by a water distribution system adequate for the proper operation of the activity).
    - (A) The Director shall be given 30 days' written notice of the removal describing the:
      - (I) Location of the land.
      - (II) Nature of the proposed activity.
      - (III) Proposed sources of water for the activity.
    - (B) The Director shall notify the landowner in writing before the elapse of the 30-day period if, in the opinion of the Director, the activity is not a bona fide agricultural activity, or else the activity shall be deemed bona fide.
- (j) **Parcel less than 20,000 square feet developed with primary structure.** Removal on parcels that have a net area of 20,000 square feet or less and that are developed with a primary structure, other than a sign structure.
- (k) **Located within 20 feet of permitted structure.** Removal from a parcel of a regulated native plant or tree that is within 20 feet of a structure that was constructed or set down on the parcel under a County development permit.
- (l) **Private fuel wood.** Removal of two or fewer regulated native trees in the Mountain Region or Valley Region per year per acre for private fuel wood purposes. The year shall be measured as the last 12 consecutive months.



*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

(m) **Oak woodlands.** The following projects shall be exempt from the conditions for mitigating the conversion of oak woodlands required in Subsection 88.01.050(e) (Native Tree or Plant Removal Permits - Conditions of approval), below, in compliance with Public Resources Code 21083.4:

- (1) Projects undertaken in compliance with a Natural Community Conservation Plan or subarea plan within a Natural Community Conservation Plan, as approved in compliance with Fish and Game Code Section 2800 *et seq.*, that includes oaks as a covered species or that conserves oak habitat through natural community conservation preserve designation and implementation and mitigation measures that are consistent with this Chapter.
- (2) Affordable housing projects for lower income households, as defined in Health and Safety Code Section 50079.5, that are located within a city's sphere of influence.
- (3) Projects on agricultural land within an Agricultural Land Use Zoning District that includes land used to produce or process plant and animal products for commercial purposes.
- (4) Projects undertaken in compliance with a State agency's regulatory program certified in compliance with Public Resources Code Section 21080.5.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

**88.01.040 Regulated Trees and Plants and General Permit**

(a) **Regulated trees and plants.** A regulated tree or plant shall be any of the those trees or plants identified in:

- (1) Section 88.01.060(c) (Regulated desert native plants);
- (2) Section 88.01.070(b) (Regulated trees); or
- (3) Section 88.01.080(b) (Regulated riparian plants).

(b) **Permit for removal required.** A Tree or Plant Removal Permit issued in compliance with Section 88.01.050 (Tree or Plant Removal Requirements) shall be required for the removal of regulated trees and plants.

(c) **Conditions of approval.** The permits required by this Chapter may be subject to conditions imposed by the applicable review authority as identified in Subsection 88.01.050(e) (Tree or Plant Removal Permits - Condition of approval).

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

**88.01.050 Tree or Plant Removal Permits**

- (a) **When Tree or Plant Removal Permit required.** A Tree or Plant Removal Permit shall be required for the removal of a regulated tree or plant as identified in this Chapter.
- (1) **Removals in conjunction with land use application or development permit Director approval.** The Director may approve the removal of regulated trees or plants when requested in conjunction with a land use application, a Building Permit, and all other development permits (e.g., Grading Permits, Mobile Home Setdown Permits, etc.). An approved land use application and/or development permit shall be considered to include a Tree or Plant Removal Permit, if the land use application or development permit specifically reviews and approves the removals. The review of a land use application or development permit shall consider and require compliance with this Chapter.
- (2) **Removals not in conjunction with land use application or development permit Director approval.** The Director may approve a Tree or Plant Removal Permit for the removal of regulated trees or plants requested not in conjunction with a land use application or development permit.
- (3) **Removals to mitigate fire hazards Fire Chief approval.** The Fire Chief may approve a Tree or Plant Removal Permit for the removal of regulated trees or plants when requested for the purposes of mitigating fire hazards and independent of a land use application or development permit.
- (b) **Expert certification.** The applicable review authority may require certification from an appropriate arborist, registered professional forester or a Desert Native Plant Expert that the proposed tree removal, replacement, or revegetation activities are appropriate, supportive of a healthy environment, and in compliance with this Chapter. The certification shall include the information in compliance with Department procedures.
- (c) **Preconstruction inspections.** A preconstruction inspection before approval of development permits shall be required in areas with regulated trees or plants to determine the presence of regulated trees and plants. The preconstruction inspection may be combined with any other required inspection.
- (d) **Duration of Tree or Plant Removal Permits.**
- (1) **Removals in conjunction with land use application or development permit.** The duration of a Tree or Plant Removal Permit, when issued in conjunction with a land use application and/or a development permit, shall have the same duration of the associated application or permit, unless otherwise specified.

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

- (2) **Removals not in conjunction with land use application or development permit.** The applicable review authority shall specify the expiration date for all other Tree or Plant Removal Permits.
- (e) **Conditions of approval.** A Tree or Plant Removal Permit may be subject to the following conditions imposed by the applicable review authority:
  - (1) **Types of conditions.** The conditions may specify criteria, methods, and persons authorized to conduct the proposed activities in addition to the requirements in this Chapter.
  - (2) **Transplanting or stockpiling.** Where indicated in this Chapter, regulated trees and plants may be required to be transplanted and/or stockpiled for future transplanting.
  - (3) **Performance bonds.** The review authority may require the posting and maintenance of a monetary security deposit where necessary to ensure the completion of the required mitigation measures in compliance with Section 86.06.050 (Performance Guarantees).
  - (4) **Conversion of oak woodlands.** If a project will result in a conversion of oak woodlands that will have a significant effect on the environment and is not exempt under Subsection 88.01.030(m) (Exempt Activities Oak woodlands), one or more of the conditions in this Subsection may be imposed in compliance with Public Resources Code Section 21083.4. For the purposes of this Subsection, "oak" shall mean a native tree species that is in the genus *Quercus*, which is not designated as Group A or Group B commercial species under regulations adopted by the State Board of Forestry and Fire Protection in compliance with Public Resources Code Section 4526, and which is five inches or more in diameter as measured at a point 4.5 feet (breast height) above natural grade level. The applicable review authority may require certification from a Tree Expert that the proposed mitigation measures are appropriate, supportive of a healthy oak woodland environment, and in compliance with this Subsection. The certification shall include the information in compliance with Department procedures. The conditions that may be imposed include one or more of the following:
    - (A) **Preservation.** Preserve existing oak woodlands by recording conservation easements in favor of the County or an approved organization or agency.
    - (B) **Replacement or restoration.** Replace or restore former oak woodlands. The review authority may require the planting and maintenance of replacement trees, including replacing dead or diseased trees. The replacement ratio and tree sizes shall be based on the recommendation of an

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

Oak Reforestation Plan prepared by a registered professional forester. The requirement to maintain trees in compliance with this paragraph shall terminate seven years after the trees are planted.

- (C) **In-lieu mitigation fee.** Contribute in-lieu mitigation fee to the Oak Woodlands Conservation Fund, established under Fish and Game Code Section 1363 for the purpose of purchasing oak woodlands conservation easements. A project applicant who contributes funds in compliance with this Subsection shall not receive or use a grant from the Oak Woodlands Conservation Fund as part of the mitigation for the project. The in-lieu fee for replacement trees shall be calculated based upon their equivalent value as established by the International Society of Arboriculture's (ISA) current edition of *Guide to Establishing Values for Trees and Shrubs*, etc.)
- (D) **Other mitigation measures.** Perform other mitigation measures as may be required by the review authority (e.g., inch-for-inch off-site replacement planting; transfer of development rights, enrollment of project with offset provider for carbon credits in greenhouse gas emission registry, carbon reduction, and carbon trading system; etc.).
- (f) **Findings for Tree or Plant Removal Permits.** The applicable review authority may authorize the removal of a regulated tree or plant only if the following findings are made:
  - (1) **Findings for removals in the Valley Region, Mountain Region, and Desert Region.** The removal of the regulated tree or plant is justified for one of the following reasons:
    - (A) The location of the regulated tree or plant and/or its dripline interferes with an allowed structure, sewage disposal area, paved area, or other approved improvement or ground disturbing activity and there is no other alternative feasible location for the improvement.
    - (B) The location of the regulated tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property and there is no other alternative feasible location for the improvement.
    - (C) The location of the regulated tree or plant is hazardous to pedestrian or vehicular travel or safety.
    - (D) The regulated tree or plant or its presence interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks,



*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.

- (E) The condition or location of the regulated tree or plant is adjacent to and in such close proximity to an existing or proposed structure that the regulated tree or plant has or will sustain significant damage.
- (2) **Additional findings for removals in the Mountain Region.** In the Mountain Region only, the applicable review authority shall also make all of the following findings:
- (A) Where improvements are proposed, the design of the improvements ensures that at least the following minimum percentage of the subject parcel will be maintained or established in a natural undeveloped vegetated or revegetated condition sufficient to ensure vegetative coverage for a forest environment, as determined by the applicable Review Authority.
    - (I) Twenty percent of commercial, industrial, and administrative/professional uses.
    - (II) Thirty-five percent of multi-family residential uses.
  - (B) At least one half of natural areas for all uses, except single family residential uses, will be located in the front setback area or located so that significant portions are visible from the public right-of-way on which the improvements are to be located.
  - (C) A perch tree within a federally identified American Bald Eagle habitat will not be removed unless an adequate substitution is provided.
  - (D) A Registered Professional Forester has certified in writing that the condition or location of a regulated tree is contributing to overstocked tree stand conditions and that its removal will improve the overall health, safety, and vigor of the stand of trees containing the subject tree.
- (3) In the Desert Region only, the applicable Review Authority shall also make the following findings:
- (A) Joshua trees that are proposed to be removed will be transplanted or stockpiled for future transplanting wherever possible.
  - (B) In the instance of stockpiling, the permittee has complied with Department policy to ensure that Joshua trees are transplanted appropriately. Transplanting shall comply with the provisions of the Desert Native Plants

*San Bernardino County Development Code*

*Plant Protection and Management*

*88.01*

Act (Food and Agricultural Code Section 80001 et seq.), as required by Subsection 88.01.060(d) (Compliance with Desert Native Plants Act).

- (C) No other reasonable alternative exists for the development of the land when the removal of specimen size Joshua Trees is requested. Specimen size trees are defined as meeting one or more of the following criteria:
  - (I) A circumference measurement equal to or greater than 50 inches measured at 4.5 feet above natural grade level.
  - (II) Total tree height of 15 feet or greater.
  - (III) Trees possessing a bark-like trunk.
  - (IV) A cluster of 10 or more individual trees, of any size, growing in close proximity to each other.
- (g) **Plot plan requirements.** Before the issuance of a Tree or Plant Removal Permit, a plot plan shall be approved by the applicable Review Authority for each site indicating exactly which trees or plants are authorized to be removed. The required information shall be added to any other required plot plan.
- (h) **Construction standards.** During construction and before final inspection under a development permit, the following construction standards shall apply, unless otherwise approved in writing by an arborist, registered professional forester, or a Desert Native Plant Expert:
  - (1) **Enclosures.** The trunks of regulated trees and regulated plants shall not be enclosed within rooflines or decking.
  - (2) **Attachments.** Utilities, construction signs, or other hardware shall not be attached so as to penetrate or abrade any live regulated tree or plant.
  - (3) **Grade alterations.** No grade alterations shall bury any portion of a regulated tree or plant or significantly undercut the root system within the dripline.
- (i) **Enforcement.**
  - (1) **Other applicable Code provisions.** The provisions of Chapter 86.09 (Enforcement) shall apply to this Chapter.
  - (2) **Enforcement authorities.** The authorities responsible for the enforcement of the provisions of this Chapter shall be the same as the review authorities responsible for permit approvals as specified in this Section. In addition, the provisions of

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

this Chapter may be enforced by the California Department of Forestry, where applicable.

- (3) **Extension of time.** If property is subject to snow, flooding, or other conditions that render compliance with the provisions of this Chapter within the specified time periods impractical because of inaccessibility, an enforcement officer may extend the period of time for compliance.
- (4) **Powers of enforcement officers.**
  - (A) A peace officer or any authorized enforcement officer may in the enforcement of this Section:
    - (I) Make arrests without warrant for a violation of this Chapter that the officer may witness.
    - (II) Confiscate regulated native trees or plants, or parts of them, that are unlawfully harvested, possessed, sold, or otherwise obtained in violation of this Chapter.
  - (B) In addition, a designated enforcement officer shall be authorized and directed to enter in or upon any premises or other place, train, vehicle, or other means of transportation within or entering the State, which is suspected of containing or having present regulated plants in violation of this Chapter in order to examine permits and wood receipts and observe tags and seals and to otherwise enforce the provisions of this Chapter.
- (5) **When enforcement officer vested with power of peace officer.** When power or authority is given by this Chapter to a person, it may be exercised by any deputy, inspector, or agent duly authorized by that person. A person in whom the enforcement of a provision of this Chapter is vested shall have the power of a peace officer as to that enforcement, which shall include State or Federal agencies with which cooperative agreements have been made by the County to enforce the provisions of this Chapter.
- (6) **Written permission of landowner required for removal.** No person shall remove or damage all or part of any regulated tree or plant on the property of another person without first obtaining notarized written permission from the landowner and required permits, wood receipts, or tags and seals. In addition, it shall be unlawful for a person to falsify a document offered as evidence of permission to enter upon the property of another to harvest all or parts of a regulated tree or plant, whether alive or dead.

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

- (7) **Permit available for display and inspection.** No person, except as provided in this Chapter, shall harvest, offer for sale, destroy, dig up or mutilate, or have in his or her possession a regulated plant or tree, or the living or dead parts of them, unless the plant or tree was harvested under a valid permit and, where applicable, a valid wood receipt on his or her person. A person shall exhibit the permit, wood receipt, tags and/or seals upon request for inspection by an authorized County enforcement officer or any peace officer. No wood receipt or tag and seal shall be valid unless it is issued with a valid permit and the permit bears the wood receipt number or tag number on its face. Required tags and seals shall be attached securely to a regulated desert native plant.
- (8) **Land Disturbance.** No person, except as provided in this Chapter, shall commence with a disturbance of land (e.g., grading or land clearing) without first obtaining approval to assure that said disturbance will not result in the removal of any regulated native trees or plants. Said approval may be in the form of a development permit or a Tree or Plant Removal Permit issued by the appropriate authority.
- (j) **Penalties.** Penalties shall be those specified in Chapter 86.09 (Enforcement) and shall include the following and any other penalties specified by individual Sections of this Chapter.
- (1) **Fine for illegal removal.**
- (A) In addition to other penalties and fees imposed by this Development Code or other law, a person, firm, or corporation convicted of a violation of the provisions of this Chapter shall be guilty of a misdemeanor upon conviction.
- (B) When one or more plants or trees are removed in violation of the provisions of this Chapter, the removal of each separate plant or tree shall be a new and separate offense.
- (C) The penalty for the offense shall be a fine of not less than \$500 nor more than \$1,000, or six months in jail, or both.
- (D) Payment of a penalty shall not relieve a person, firm, or corporation from the responsibility of correcting the condition resulting from the violation.



*San Bernardino County Development Code*

*Plant Protection and Management*

*88.01*

**(2) Replacement program for illegal removal.**

- (A) In addition to other penalties imposed by this Development Code or other law, a person, firm, or corporation convicted of violating the provisions of this Chapter regarding improper removal of regulated native trees or plants shall be required to retain, as appropriate, a Tree Expert or Desert Native Plant Expert to develop and implement a replacement program.
- (B) The expert shall determine the appropriate number, size, species, location, and planting conditions for replacement plants or trees in sufficient quantities to revegetate the illegally disturbed area.
- (C) If it is inappropriate to revegetate the illegally disturbed area, another appropriate location (e.g., public parks) may be substituted at the direction of the court.
- (D) The violator shall post a bond in an amount sufficient to remove and reinstall plant/tree materials that were planted as a part of a replacement program and failed within two years.

**(3) Revocation of permits.**

- (A) Upon conviction of a violation of this Chapter, all Tree or Plant Removal Permits issued to the convicted person, firm, or corporation shall be revoked.
- (B) No new or additional Tree or Plant Removal Permits shall be issued to the permittee for a period of one year from the date of conviction.
- (C) Additionally, in the Desert Region the permittee shall be required to surrender unused wood receipts or tags and seals to the Director.

Adopted Ordinance 4011 (2007); Amended Ordinance 4043 (2008); Amended Ordinance 4067 (2009)

**88.01.060 Desert Native Plant Protection**

This Section provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The provisions are intended to augment and coordinate with the Desert Native Plants Act (Food and Agricultural Code Section 80001 et seq.) and the efforts of the State Department of Food and Agriculture to implement and enforce the Act.

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

- (a) **Definitions.** Terms and phrases used within this Section shall be defined in Division 10 (Definitions) and/or defined by the California Food and Agricultural Code. The California Food and Agricultural Code definition, if one exists, shall prevail over a conflicting definition in this Development Code.
- (b) **Applicability.** The provisions of this Section shall apply to desert native plants specified in Subsection (c) (Regulated desert native plants) that are growing on any of the following lands, unless exempt in compliance with Section 88.01.030 (Exempt Activities):
  - (1) Privately owned or publicly owned land in the Desert Region.
  - (2) Privately owned or publicly owned land in any parts of the Mountain Region in which desert native plants naturally grow in a transitional habitat.
- (c) **Regulated desert native plants.** The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance with Section 88.01.050 (Tree or Plant Removal Permits). In all cases the botanical names shall govern the interpretation of this Section.
  - (1) The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
    - (A) *Dalea spinosa* (smoketree).
    - (B) All species of the genus *Prosopis* (mesquites).
  - (2) All species of the family *Agavaceae* (century plants, nolinias, yuccas).
  - (3) Creosote Rings, 10 feet or greater in diameter.
  - (4) All Joshua trees.
  - (5) Any part of any of the following species, whether living or dead:
    - (A) *Olneya tesota* (desert ironwood).
    - (B) All species of the genus *Prosopis* (mesquites).
    - (C) All species of the genus *Cercidium* (palos verdes).

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

- (d) **Compliance with Desert Native Plants Act.** Removal actions of all plants protected or regulated by the Desert Native Plants Act (Food and Agricultural Code Section 80001 et seq.) shall comply with the provisions of the Act before the issuance of a development permit or approval of a land use application.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

**88.01.070 Mountain Forest and Valley Tree Conservation**

This Section provides regulations to promote conservation and wise use of forest resources in the Mountain Region and native tree resources in the Valley Region. The provisions are intended to augment and coordinate with the Z'berg-Nejedly Forest Practice Act of 1973 (Public Resources Code Section 4526 et seq.) and the efforts of the State Department of Forestry and Fire Protection to implement and enforce the Act.

(a) **Applicability.**

- (1) **Private harvesting.** The provisions of this Section apply to the private harvesting of all trees growing on private land and on public land in the unincorporated Mountain Region and Valley Region.
- (2) **Commercial harvesting.** The commercial harvesting of trees shall be prohibited, except as allowed by and authorized by the State Department of Forestry and Fire Protection in compliance with the Z'berg-Nejedly Forest Practice Act of 1973 (Public Resources Code Section 4526 et seq.).
- (b) **Regulated trees.** The following trees shall only be removed with an approved Tree or Plant Removal Permit issued in compliance with Section 88.01.050 (Tree or Plant Removal Permits):
- (1) **Native trees.** A living, native tree with a six inch or greater stem diameter or 19 inches in circumference measured 4.5 feet above natural grade level.
- (2) **Palm trees.** Three or more palm trees in linear plantings, which are 50 feet or greater in length within established windrows or parkway plantings, shall be considered to be heritage trees and shall be subject to the provisions of this Chapter regarding native trees.
- (c) **Tree protection from insects and disease.** For regulations on the treatment and disposition of felled trees, see Section 88.01.090 (Tree Protection from Insects and Disease).

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

**88.01.080 Riparian Plant Conservation**

This Section provides regulations to promote healthy and abundant riparian habitats that protect watersheds; control transmission and storage of natural water supplies; provide unique wildlife habitats for rare, endangered and threatened plants and animals; provide attractive environments; control natural soil erosion and sedimentation to protect stream banks subject to erosion and undercutting; and provide sufficient shade to reduce temperature and evaporation and the growth of algae in streams. The provisions of this Section are intended to augment and coordinate with the responsibilities of the California Department of Fish and Game.

**(a) Applicability.**

- (1) Applicable areas.** The provisions of this Section shall apply to all riparian areas located on private land in all zones within the unincorporated areas of the County and to riparian areas on public land owned by the County, unless exempt as specified by Section 88.01.030 (Exempt Activities) and by Subsection (2) (Exemptions), below.
- (2) Exemptions.** The provisions of this Section shall not apply to:
  - (A) Emergency Flood Control District operations or water conservation measures established and authorized by an appropriate independent Special District.
  - (B) An area that has an existing man-made impervious structure, which is greater than 120 square feet in roof area, between the area proposed to be disturbed by a development permit and the bank of a subject stream, as measured in a straight line perpendicular to the centerline of the stream.

**(b) Regulated riparian plants.**

- (1) Vegetation described.** The removal of vegetation within 200 feet of the bank of a stream, or in an area indicated as a protected riparian area on an overlay map or Specific Plan, shall require approval of a Tree or Plant Removal Permit in compliance with Section 88.01.050 (Tree or Plant Removal Permits) shall be subject to environmental review.
- (2) Streams.** For the purposes of this Section, streams include those shown on United States Geological Survey Quadrangle topographic maps as perennial or intermittent, blue or brown lines (solid or dashed), and river wash areas.
- (c) Preconstruction inspections.** Preconstruction inspections shall include the verification of the presence of riparian vegetation.
- (d) Conditions of approval.** Conditions of approval for removal of riparian vegetation may be imposed in addition to, and in combination with, any condition imposed in compliance with Section 88.01.050 (Tree or Plant Removal Permits).



*San Bernardino County Development Code*

*Plant Protection and Management*

*88.01*

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)

**88.01.090 Tree Protection from Insects and Disease**

This Section provides regulations for the treatment and disposition of felled trees in the Mountain Region to protect against damaging insects (e.g. bark beetles) and diseases. The intent is to mitigate the serious danger posed to forests from coniferous trees that are cut in land clearing operations and are then allowed to remain exposed and untreated against noxious insects, which then multiply in the felled trees to later attack and damage healthy coniferous trees.

- (a) **Applicability.** The provisions in this Section apply to coniferous trees located on land in the Mountain Region. Every person, firm, or corporation, whether as principal, agent, or employee, that has control of, right of entry on, or access to land in the Mountain Region shall comply with this Section.
- (b) **Treatment of felled trees.** Except as otherwise provided by this Section, felled coniferous trees, portions of trees, and stumps shall be treated in compliance with at least one, or a combination, of the following methods and the method in Subsection (c) (Stump treatment), below, within 15 days after a coniferous tree has been cut.
  - (1) Remove to a solid waste disposal site specifically designated by the County for this type of use.
  - (2) Burn sufficiently to consume the bark, when allowed by the Fire Department and the Air Pollution Control District.
  - (3) Lop and scatter material less than four inches in diameter so that it is piled no higher than 24 inches above the ground, when allowed by the Fire Department.
  - (4) Remove the bark
  - (5) Chip or grind.
  - (6) Split and scatter with bark toward the sun for a minimum of 45 consecutive days or until final inspection is completed, whichever is less.
  - (7) Stack in the sun and cover with six mil clear plastic, which has a continuous seal from the outside and for at least 180 days.
  - (8) Spray with a commercial insecticide, as approved by the Agricultural Commissioner for these insects and purposes.

*San Bernardino County Development Code*

*Plant Protection and Management*

88.01

- (9) Treat under any other method approved by the enforcement officer in writing.
- (c) **Stump treatment.** Fresh cut stumps of live coniferous trees shall be protected from infection by Annosus Root Rot (*Homos annosus*) with borax powder (granular tech, 10 mole) as soon as possible after felling, covering the entire newly exposed cut and/or broken surface completely with a thin uniform layer of white borax within two hours.
- (d) **Inspections.** In the case of construction activity, the Building Official shall not approve development permit inspections until felled coniferous trees, portions of trees, and stumps are treated in compliance with this Section.
- (e) **Certificate of compliance.** Where trees have been treated by an approved method and the evidence of treatment is not readily observable to the inspector on the construction site, the Building Official shall require a permittee to obtain a certificate that the treatment has been completed in an acceptable manner. The certificate may be from one of the following authorities:
- (1) Fire Chief.
  - (2) Agricultural Commissioner.
  - (3) Appropriately certified Pest Control Adviser as defined in Food and Agriculture Code Section 11401 et seq.
  - (4) Qualified Applicator as defined in Food and Agriculture Code Section 11401 et seq.
- (f) **Extension of time of enforcement.** If compliance with Subsection (b) (Treatment of felled trees) and Subsection (c) (Stump treatment) within the specified time periods is impractical because of inaccessibility to the cut timber due to snow or flooding, an enforcement officer may extend the period of time for compliance.

Adopted Ordinance 4011 (2007); Amended Ordinance 4067 (2009)