2023

Land Evaluation and Site Assessment Model

DISCOVERY VILLAGE PROJECT

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Land Evaluation and Site Assessment Model for the Discovery Village Residential and Innovation Project

City of Murrieta, California

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Abstract

The Discovery Village Residential and Innovation Project site is in the City of Murrieta, Riverside County, California. The Project includes Tentative Tract Map No. 38228 and development of non-residential and residential uses consistent with the existing General Plan and zoning designation. The study area encompasses approximately 60.4 gross acres (55.8-gross-acre Project site and approximately 4.6-acres of off-site improvement areas). The Project is subject to review under the California Environmental Quality Act (CEQA). In this report, the California Land Evaluation and Site Assessment (LESA) Model is used as an evaluation tool to determine if the subject property qualifies as an important agricultural resource. Based on the methodology established by the California LESA Model, this report concludes that the Project site is considered to have a relatively low value for agricultural production and implementation of the Project would result in a less-than-significant impact to agricultural lands.

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1.0 INTRODUCTION

1.1 Document Purpose

The Discovery Village Innovation and Residential Project (hereafter, "Project") includes Tentative Tract Map (TTM) No. 38228 and development of residential and non-residential uses allowed pursuant to the existing General Plan and zoning designations. The purpose of this Land Evaluation and Site Assessment (LESA) Model is threefold: 1) to determine the presence or absence of important agricultural resources on the Project site; 2) assess potential effects, if any, to any important agricultural resources that may be present on the Project site; and 3) if any impacts to important agricultural resources would occur, determine the significance of impacts under the California Environmental Quality Act (CEQA).

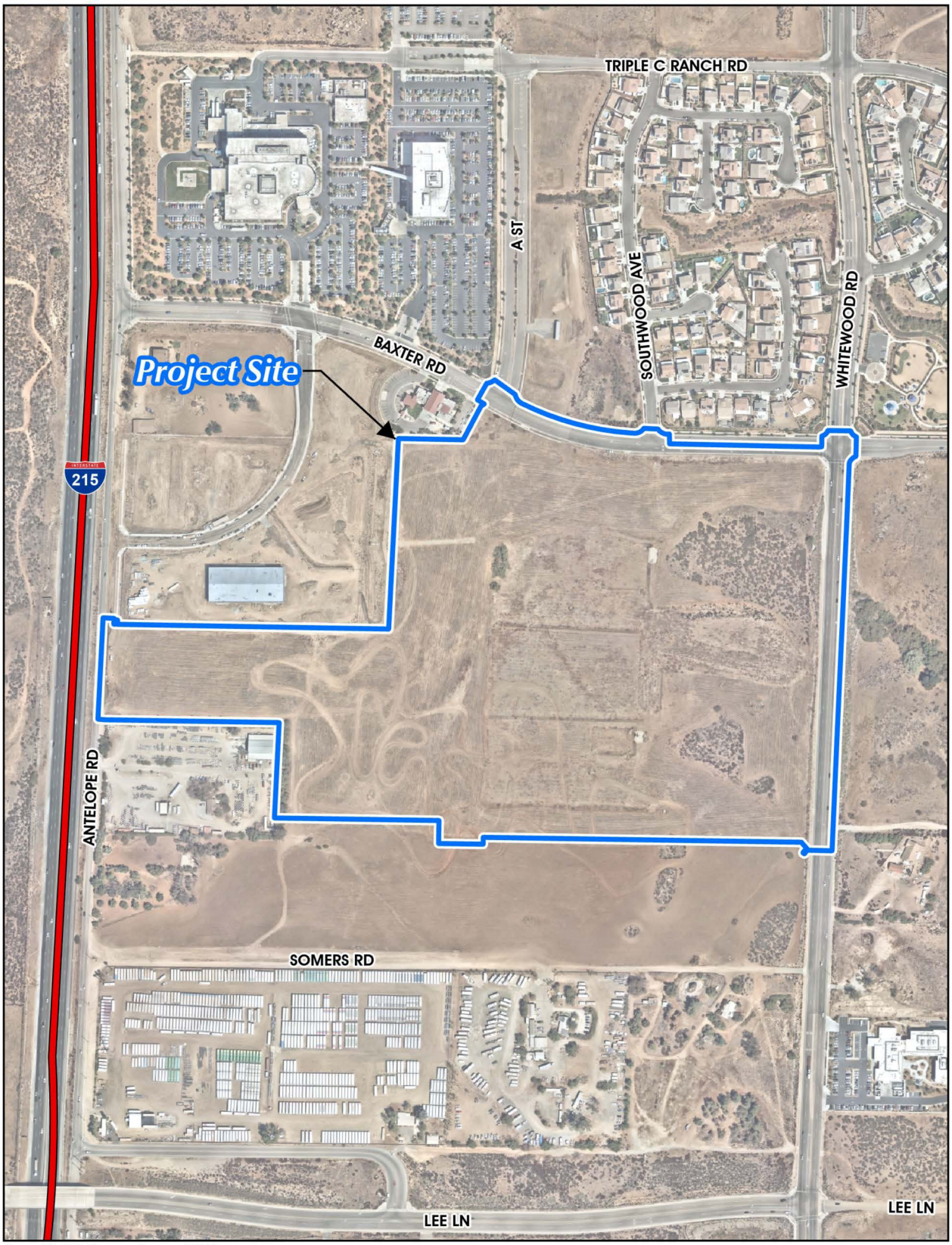
CEQA Guidelines § 15126.2(a) requires that environmental documentation "*identify and focus on the significant environmental effects*" of a proposed project. The CEQA Guidelines definition of environment "means the physical conditions which exist within the area which will be affected by a proposed project including *land*, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance." (*emphasis added*, CEQA Guidelines § 15360). Per the CEQA Guidelines, the Project will result in a significant effect on the environment if the site contains important agricultural resources that would be converted to a non-agricultural use.

1.2 Project Location

The approximately 55.8-gross-acre Project site is in the northern portion of the City of Murrieta, Riverside County, California. The Project site is bound by Baxter Road to the north, Whitewood Road to the east, an easement for Running Rabbit Road and vacant lot to the south, and Antelope Road to the west (see Figure 1, *Aerial Photograph*). The Project site consists of the following Assessor Parcel Number (APN): 392-290-049. Additionally, the Project requires implementation of site-adjacent roadway improvements that encompass approximately 4.6-acres off-site). Therefore, the study area for this LESA Model is 60.4 gross acres.

1.3 Project Summary

The Project involves a large lot TTM No. 38228, and associated grading and infrastructure installation. A portion of the Project site would be preserved as open space. The large pads and infrastructure would facilitate development of the Project site compliant with current General Plan and zoning designations. For purposes of analysis, and based on existing General Plan and zoning designations, it is anticipated that development at the Project site would include: non-residential uses on Lot 1 through Lot 3 consistent with the "Innovation" land use designation; and multifamily (low-rise) housing units (condo) and single family detached residential dwelling units on Lot 4 through Lot 8 consistent with the existing zoning (MF-2, Multi-Family Residential). This analysis assumes that future development associated with the Project would consist of 199 multi-family housing units, 237 single family detached residential dwelling units, and 272,000 square feet (sf) of Innovation uses.



Source(s): ESRI, Nearmap Imagery (2022)

Figure 1

0 125 250 500 Feet

Aerial Photograph

2.0 AGRICULTURE IN CALIFORNIA

2.1 Williamson Act

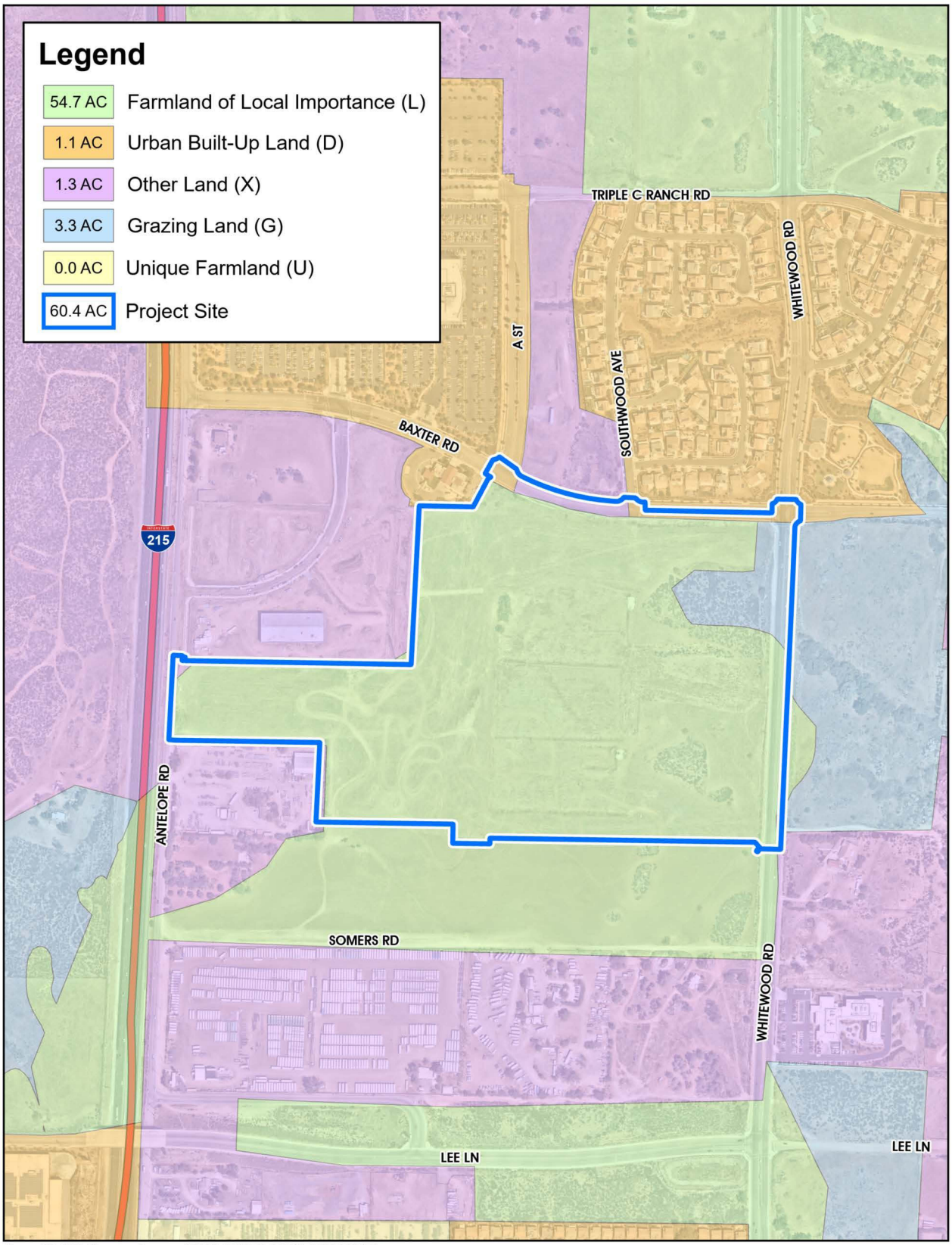
In 1965, the California Assembly established the California Land Conservation Act, also known as the Williamson Act, in response to the increasing pressure occurring throughout California during the post-World War II period to convert agricultural lands to urban development. The Williamson Act allows local governments to enter contracts with landowners to restrict property to agricultural or related open space uses for a minimum of 10 years in exchange for a lower property tax assessment to the landowner. After the initial 10-year contract term, the contract remains in effect until canceled by the landowner or the local government. Once canceled, a contract winds down over a period of 10 years (CDC, 2019a). The Project site is not subject to a Williamson Act contract. (City of Murrieta, 2011)

2.2 Farmland Classification

As part of the State's efforts to protect agricultural resources, the Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to provide data to public, academia, and government entities for the purposes of making informed decisions regarding the use of California's agricultural land resources. The FMMP is required by California Government Code § 65570 to report on the conversion of agricultural lands in the *California Farmland Conversion Report* and maintain the *Important Farmland Maps* database system to record changes in the use of agricultural lands over time (CDC, 2019b).

- Prime Farmland: "Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date."
- Farmland of Statewide Importance: "Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date."
- Unique Farmland: "Farmland of less quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated. Land must have been cropped at some time during the four years prior to the mapping date."
- Farmland of Local Importance: "Land of importance to the local agricultural economy as determined by each county's board of supervisors and local advisory committee."
- Grazing Land: "Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities."

According to the California Department of Conservation (CDC) Important Farmland Finder Map (see Figure 2, *Farmland Monitoring and Mapping Program Map*), the Project study area is classified as "Farmland of Local Importance," "Urban Built-Up Land," "Other Land," and "Grazing Land." (CDC, 2018)



Source(s): ESRI, Nearmap Imagery (2022), RCTLMA (2023), FMMP (2022)

Figure 2

0 150 300 600 Feet

Farmland Mapping & Monitoring Program Map

3.0 ASSESSMENT METHODOLOGY

3.1 LESA Model

The LESA Model is a point-based approach that uses measurable factors to quantify the relative value of agricultural land resources and assist in the determination of the significance of agricultural land conversions. Many states have developed LESA Models specific to their local contexts. The California LESA Model was created as a result of Senate Bill 850 (Chapter 812/1993) and provides lead agencies with an optional methodology to ensure that potentially significant effects on the environment associated with agricultural land conversions are quantitatively and consistently considered in the environmental review process (CDC, 1997, p. 4). The California LESA Model is the methodology used by the City of Murrieta to determine whether important agricultural resources are present on a property.

3.2 California LESA Model Scoring System

The California LESA Model is made up of two components, known as "Land Evaluation" (LE) and "Site Assessment" (SA), that are scored and weighted separately to yield a total LE subscore and SA subscore. The Final LESA Score is the sum of the LE and SA subscores and has a maximum possible score of 100 points. Based on the Final LESA Score, numerical thresholds are used to determine the significance of a project's impacts on agricultural resources (CDC, 1997, p. 31).

3.2.1 Land Evaluation (LE)

The LE subscore consists of two factors, including the Land Capability Classification (LCC) rating and the Storie Index rating, which were devised to measure the inherent soil-based qualities of land as they relate to agricultural production. The LCC Rating and Storie Index rating scores are based upon the soil map unit(s) identified on a property and the acreage of each soil mapping unit relative to the property's total acreage. Data for the soil map unit(s), LCC, and Storie Index are obtained from soil survey data provided by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (CDC, 1997, pp. 7-9).

A. LCC Rating

There are eight (8) classes of LCC (I through VIII). Soils designated "I" have the fewest limitations for agricultural production and soils designated "VIII" are least suitable for farmland. The LCC is further divided into subclasses (designated by lowercase letters *e, w, s,* or *c*) to describe limitations, including a soil's susceptibility to erosion ("e"), limitations due to water in or on the soil ("w"), shallow or stony soils ("s"), or climate ("c") (USDA, 2023).

Once the LCC for each soil mapping unit is obtained from the USDA NRCS soil survey, the LCC classification is converted into a numeric score established by the California LESA Model. Table 3-1, *Numeric Conversion of Land Capability Classification Units*, summarizes the LCC numeric conversion scores used by the LESA model. The LCC Score accounts for 25 percent of the total California LESA Model Score (CDC, 1997, p. 7).

Table 3-1 Numeric Conversion of Land Capability Classification Units

LCC	I	IIe	IIs, w	IIIe	IIIs, w	IVe	IVs, w	V	VI	VII	VIII
Rating	100	90	80	70	60	50	40	30	20	10	0

Source: (CDC, 1997)

For properties with multiple soil mapping units, the LCC Score used in the LESA Model is determined by multiplying the LCC Rating for each map unit by the corresponding map unit's proportion of the property's total acreage. The LCC Score for each map unit is summed together for a total, single LCC Score for the property (CDC, 1997, p. 7).

B. Storie Index Rating

The Storie Index is a quantitative method of rating the agricultural capability of soils. The Storie Index has been used in California for over 50 years, with the most recent version of the Storie Index being published in 1978. The Storie Index is based on four factors: 1) degree of soil profile development; 2) surface texture; 3) slope; 4) other soil and landscape conditions including drainage, alkalinity, nutrient level, acidity, erosion, and microrelief. Soils are graded on a 100-point scale that represents the relative value of a given soil when used for intensive agricultural purposes (University of California, 1978, p. 1). The Storie Index Score accounts for 25 percent of the total California LESA Model Score (CDC, 1997, p. 12).

For properties with multiple soil mapping units, the Storie Index Score is calculated by multiplying the Storie Index rating by the map unit's proportion of the property's total acreage. The Storie Index Score for each map unit is added together to provide a single Storie Index Score for the property (CDC, 1997, p. 12).

3.2.2 Site Assessment (SA)

The SA subscore consists of four factors that measure social, economic, and geographic features that contribute to the overall value of agricultural land. The SA factors include Project Size, Water Resource Availability, Surrounding Agricultural Land, and Protected Resource Land (CDC, 1997, p. 13).

A. Project Size

The Project Size rating evaluates the potential viability of potential agricultural productivity on a property. Generally, high quality soils (high rate of economic return per acre planted) only need to be present in relatively small quantities on a property to be considered important, whereas lower quality soils (low or moderate rate of economic return per acre planted) need to be present in larger quantities to be considered important.

The Project Size rating corresponds with the acreage of each LCC Class identified on a property. Table 3-2, *Project Size Scoring*, summarizes the different Project Size scoring combinations. For properties with multiple map units within the subject property, the mapping unit that generates the highest Project Size score is used as the final Project Size score for the Project site. The Project Size score accounts for 15 percent of the total California LESA Model Score (CDC, 1997, pp. 13-15).

Table 3-2 Project Size Scoring

LCC Class I or II soils		LCC Class III soils		LCC Class IV or lower	
Acreage	Points	Acreage	Points	Acreage	Points
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
Fewer than 10	0	20-39	30	Fewer than 40	0
		10-19	10		
		Fewer than 10	0		

Source: (CDC, 1997)

B. Water Resources Availability

The Water Resources Availability rating measures the reliability of a property's water resources that could be used for agricultural production during non-drought and drought years (water availability score) and the proportion of the property served by each water source (weighted availability score). The water availability score established by the California LESA Model is summarized in Table 3-3, *Water Resources Availability Scoring.* The total Water Resources score is the sum of the weighted availability score(s). The Water Resources Availability score accounts for 15 percent of the total California LESA Score (CDC, 1997, pp. 16, 29).

Table 3-3 Water Resources Availability Scoring

Non-Drought Years			Drought Years			SCORE
Restrictions			Restrictions			
Irrigation Feasible	Physical Restrictions	Economic Restrictions	Irrigation Feasible	Physical Restrictions	Economic Restrictions	
YES	NO	NO	YES	NO	NO	100
YES	NO	NO	YES	NO	YES	95
YES	NO	YES	YES	NO	YES	90
YES	NO	NO	YES	YES	NO	85
YES	NO	NO	YES	YES	YES	80
YES	YES	NO	YES	YES	NO	75
YES	YES	YES	YES	YES	YES	65
YES	NO	NO	NO	-- --	-- --	50
YES	NO	YES	NO	-- --	-- --	45
YES	YES	NO	NO	-- --	-- --	35
YES	YES	YES	NO	-- --	-- --	30
Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
Neither irrigated nor dry land production feasible						0

Source: (CDC, 1997)

C. Surrounding Agricultural Land

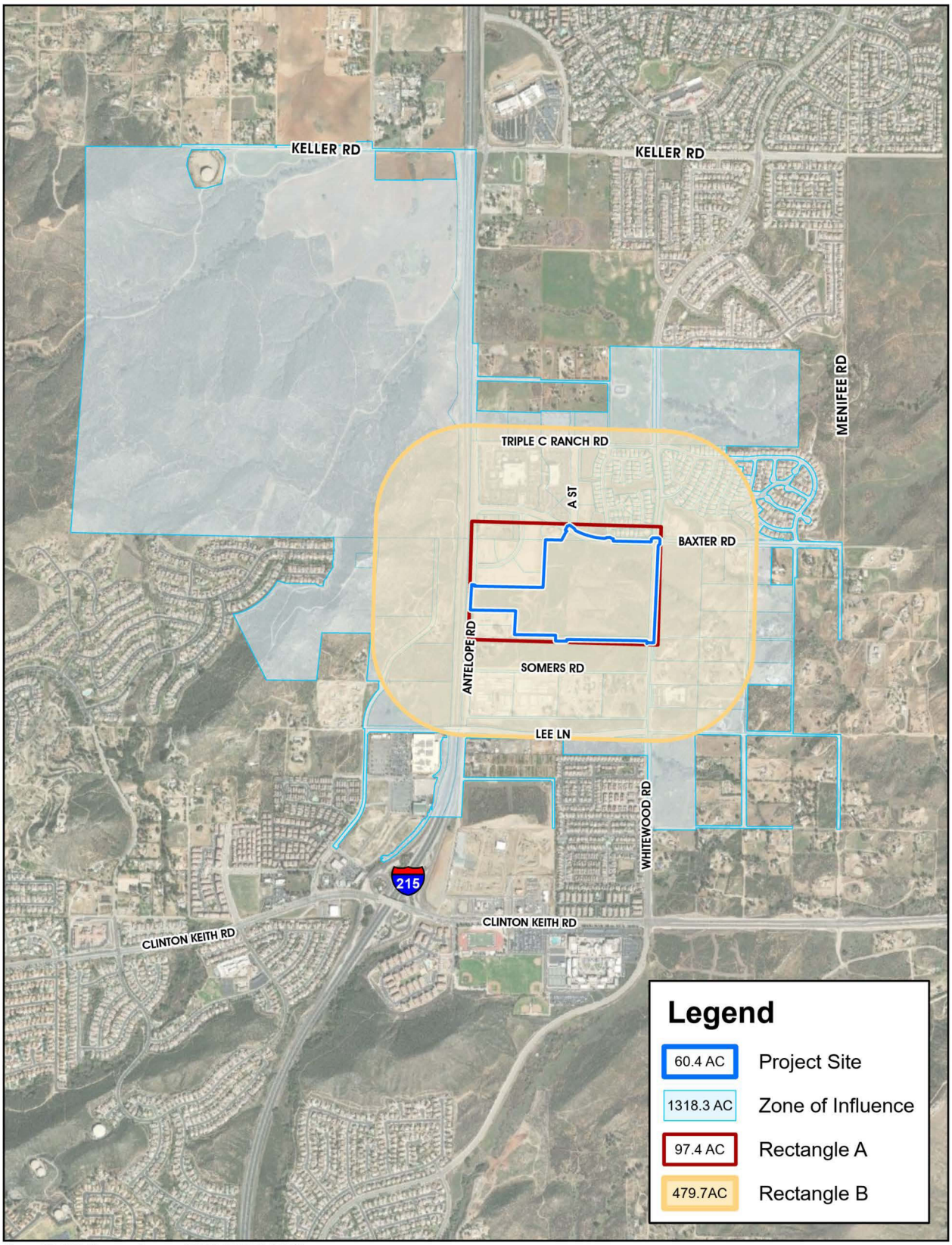
The Surrounding Agricultural Land rating accounts for the potential effect of development on properties containing important agricultural resources that surround a project site. The Surrounding Agricultural Land rating is dependent on the amount of agricultural land or related open space within a project's "Zone of Influence" (ZOI). The ZOI is determined by drawing the smallest rectangle that will completely contain the project site on a map (Rectangle A) and creating a second rectangle that extends 0.25-mile beyond Rectangle A on all sides (Rectangle B). All parcels that are within or intersected by Rectangle B are included within the project's ZOI (CDC, 1997, pp. 23-25). The ZOI for the Project site is illustrated on Figure 3.

The Surrounding Agricultural Land rating is determined by the proportion of land within a project's ZOI that is currently used for agricultural production. The Surrounding Agricultural Land score established by the California LESA Model is summarized in Table 3-4, *Surrounding Agricultural Land Score*. Data for surrounding agricultural land can be obtained from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, and/or inspection of the site. The surrounding agricultural land score accounts for 15 percent of the total California LESA Model Score (CDC, 1997, pp. 26, 29).

Table 3-4 Surrounding Agricultural Land Score

Percent of Project's ZOI in Agricultural Use	Surrounding Agricultural Land Score
90 – 100 percent	100 Points
80 – 89	90
75 – 79	80
70 – 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
<40	0

Source: (CDC, 1997)



Source(s): ESRI, Nearmap Imagery (2022), RCTLMA (2023)

Figure 3

0 500 1,000 2,000 Feet

Zone of Influence

D. Surrounding Protected Resource Land

Similar to the Surrounding Agricultural Land rating, the California LESA Model considers the potential effect of development on protected resource lands surrounding a project site. Protected resource lands include Williamson Act contracted lands, publicly owned lands maintained as park, forest, or watershed resources, and lands with natural resource easements (e.g., agricultural, wildlife habitat, open space).

The Surrounding Protected Resource Land rating is determined by the proportion of protected resource lands within a project's ZOI. The Surrounding Protected Resource Land scoring system established by the California LESA Model is summarized in Table 3-5, *Surrounding Protected Resource Land Score*. The Surrounding Protected Resource Land score accounts for 5 percent of the total California LESA Score (CDC, 1997, pp. 28-29).

Table 3-5 Surrounding Protected Resource Land Score

Percent of Project's ZOI Defined as Protected	Surrounding Protected Resource Land Score (Points)
90 – 100	100
80 – 89	90
75 – 79	80
70 – 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
<40	0

Source: (CDC, 1997)

4.0 PROJECT SITE EVALUATION

In this section, the California LESA Model is applied to the Project study area to evaluate whether the Project site contains important agricultural resources.

4.1 Land Evaluation (LE)

As discussed in Subsection 3.2.1, the LE subscore measures the agricultural suitability of soils identified on a property by using the LCC Rating and Storie Index for each present soil map unit. The Project site consist of eleven (11) soil map units including: Cajalco fine sandy loam, 2 to 8 percent slopes, eroded (CaC2), Cajalco fine sandy loam, 8 to 15 percent slopes, eroded (CaD2), Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded (CbD2), Cieneba sandy loam, 5 to 8 percent slope (ChC), Cieneba sandy loam, 8 to 15 percent slopes, eroded (ChD2), Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded (CkF2), Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded (FbC2), Greenfield sandy loam, 2 to 8 percent slopes, eroded (GyC2), Honcut loam, 2 to 8 percent slopes, eroded (HuC2), Las Posas loam, 2 to 8 percent slopes (LaC), and Vista coarse sandy loam, 2 to 8 percent slopes (VsC).

4.1.1 Land Capability Classification

Refer to Table 4-1, *Land Capability Classification Score,* below, for the LCC Scores of the Project site.

Table 4-1 Land Capability Classification Score

Soil Map Unit	Acres	Proportion of Project Site (percent)	LCC	LCC Rating	LCC Score
CaC2	29.3	48.6	IIIe	70	34.0
CaD2	4.6	7.6	IVe	50	3.8
CdD2	6.3	10.4	VIe	20	2.1
ChC	1.3	2.2	IVe	50	1.1
ChD2	1.4	2.4	VIe	20	0.48
CkF2	0.1	0.1	VIIe	10	0.01
FbC2	7.4	12.2	IVe	50	6.1
GyC2	5.6	9.2	IIIe	70	6.4
HuC2	0.5	0.8	IIIe	70	0.56
LC	3.0	5.0	IVe	50	2.5
VSC	0.9	1.5	IVe	50	0.75
Totals	**60.4**	**100[1]**			**57.8**

Source: (USDA, 2023)

[1]Rounded to the nearest 10th.

The non-irrigated LCC was utilized because under existing conditions, the Project site does not have an irrigation system.

4.1.1 Storie Index

Refer to Table 4-2, *Storie Index Score*, below, for the total Storie Index scores for the Project site.

Table 4-2 Storie Index Score

Soil Map Unit	Acres	Proportion of Project Site (percent)	Storie Index	Storie Index Score
CaC2	29.3	48.6	56	27.2
CaD2	4.6	7.6	42	3.2
CdD2	6.3	10.4	37	3.8
ChC	1.3	2.2	25	0.55
ChD2	1.4	2.4	24	0.58
CkF2	0.1	0.1	18	0.02
FbC2	7.4	12.2	35	4.3
GyC2	5.6	9.2	87	8.0
HuC2	0.5	0.8	91	0.73
LC	3.0	5.0	59	3.0
VSC	0.9	1.5	42	0.63
Totals	**60.4**	**100[1]**		**52.0**

Source: (USDA, 2023)
[1]Rounded to the nearest 10th.

4.2 Site Assessment (SA)

As previously noted, the SA subscore is based on a combination of a property's size, the availability of water resources, the presence/absence of surrounding agricultural lands, and the presence/absence of surrounding protected resource lands.

4.2.1 Project Size

Refer to Table 4-3, *Project Size Score*, below, for the total Project Size scores for the Project site.

Table 4-3 Project Size Score

	Soil Class		
	LCC Class I-II	**LCC Class III**	**LCC Class IV-VIII**
Acres of Project site	0.0	35.4	25.0
Project Size Scores	0	**30**	0

Source: (USDA, 2023)
Refer to Table 3-2 for Project Size Scoring, which is based on LCC Class and acreage.

4.2.2 Water Resource Availability

The Project site does not have existing irrigation systems; therefore, the California LESA model considers irrigated production to be infeasible on the Project site (CDC, 1997, p. 18). Notwithstanding, the LESA Model analyzes the potential for dryland production. The City is characterized as having an arid climate and receives little rainfall throughout the year. The average annual precipitation in the general Project site vicinity is approximately 12 inches (Best Places, 2022). Dryland farming can be productive with as little as 10-12 inches of rain per year (CAWSI, 2022). Accordingly, at the Project site, dryland farming is considered feasible during normal years but not feasible during drought years, which corresponds to Water Resources Availability scores of 20 (refer to Table 3-3).

4.2.3 Surrounding Agricultural Land

The Surrounding Agricultural Land score is dependent on the presence or absence of active agricultural production land within a project's ZOI. Figure 4 illustrates the active agricultural production lands in the ZOIs for the Project site. Table 4-4, *Surrounding Agricultural Land Score*, summarizes the Surrounding Agricultural Land score for the Project site.

Table 4-4 Surrounding Agricultural Land Score

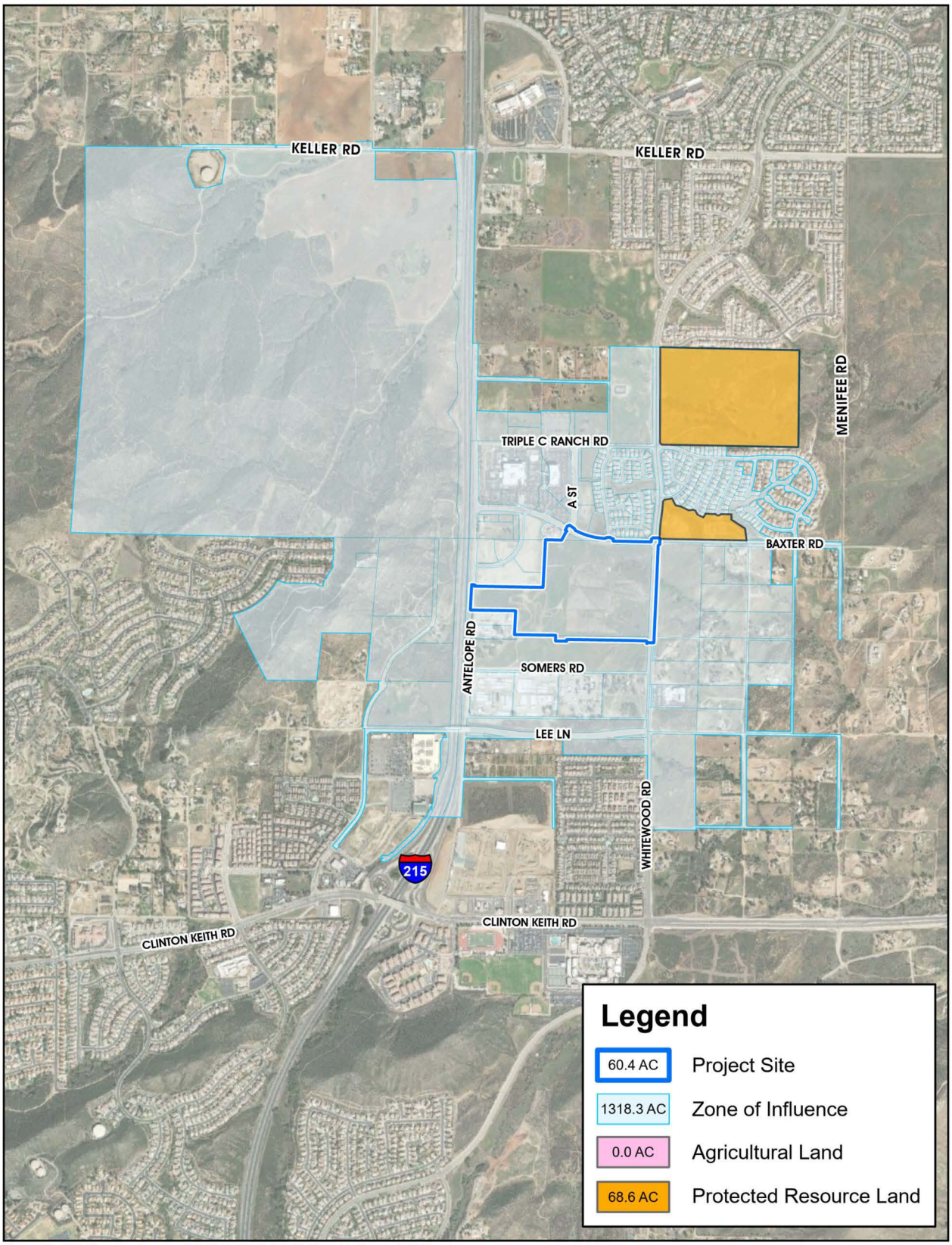
Zone of Influence			Surrounding Agricultural Land Score
Total Acres	Acres of Surrounding Agricultural Land	Percent Surrounding Agricultural Land	
1,318.3	0	0	0

4.2.4 Surrounding Protected Resource Land

The Surrounding Protected Resource Land score is dependent on the presence or absence of lands within a project's ZOI that have long-term use restrictions that are compatible with or supportive of agricultural uses. Figure 4 illustrates the protected resource lands in the ZOIs for the Project site. As illustrated on Figure 4, 68.6 acres of the Project's ZOI is identified as protected resource land; this land is publicly owned and is maintained by the City as parkland (Mapleton Park and Springbrook Park). Table 4-5, *Surrounding Protected Resource Land Score*, summarizes the Surrounding Protected Resource Land score for the Project site.

Table 4-5 Surrounding Protected Resource Land Score

Zone of Influence			Surrounding Protected Resource Land Score
Total Acres	Acres of Protected Resource Land	Percent Protected Resource Land	
1,318.3	68.6	5.20	0



Source(s): ESRI, Nearmap Imagery (2022), RCTLMA (2023), Riverside County (2021)

Figure 4

0 500 1,000 2,000 Feet

Surrounding Agricultural & Protected Resource Land

4.3 Total LESA Score

The total LESA Score is calculated by summing the Project site's LE and SA subscores. The total LESA score for the Project site is summarized in Table 4-6.

Table 4-6 Total LESA Score Sheet – Project Site

	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
LCC	57.8	0.25	14.5
Storie Index	52.0	0.25	13.0
		LE Subtotal	*27.5*
SA Factors			
Project Size	30.0	0.15	4.5
Water Resource Availability	20.0	0.15	3.0
Surrounding Agricultural Land	0.0	0.15	0
Protected Resource Land	0.0	0.05	0
		SA Subtotal	*7.5*
Final LESA Score			**35.0**

5.0 CONCLUSION

The Project site received a LESA score of 35.0. As shown in Table 5-1, impacts to land that receives a LESA score between 0 and 39 are not considered significant under CEQA. Thus, the Project site is determined to have a relatively low value for agricultural production and Project impacts on agricultural resources would be less-than-significant.

Table 5-1 California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39	**Not Considered Significant**
40 to 59	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100	Considered Significant

Source: (CDC, 1997, Table 9)

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