Appendix C:
Agriculture and Forestry Resources Supporting Information

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Land Evaluation and Site Assessment Model
Fresno Central Southeast Area Specific Plan
City of Fresno, Fresno County, California

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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
CEQA	California Environmental Quality Act
DOC	California Department of Conservation
FCS	FirstCarbon Solutions
FMMP	Farmland Mapping and Monitoring Program
LCC	Land Capability Class
LESA	Land Evaluation and Site Assessment
NRCS	Natural Resources Conservation Service
SR	State Route
USDA	United States Department of Agriculture
USGS	United States Geological Survey

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SECTION 1: INTRODUCTION

1.1 - Project Location

1.1.1 - Central Southeast Area Specific Plan Area

The Central Southeast Area Specific Plan Area (Specific Plan Area) is located in the southeast area of the City of Fresno (City), in Fresno County (County), California. The City is located in the central San Joaquin Valley, approximately 200 miles north of Los Angeles, and 170 miles south of Sacramento. The City is located on the State Route (SR) 99 corridor.

The Specific Plan Area is approximately 2,200 acres just east and southeast of Downtown Fresno and is bounded by Belmont Avenue to the north, East Avenue to the west, Church Avenue to the south, and Peach Avenue to the east. Additionally, the Specific Plan Area is located within the Roosevelt Community Plan Area.

The Specific Plan Area sits just north of the Industrial Triangle and is surrounded to the west by some of the oldest City neighborhoods and to the east by unincorporated County agricultural lands. The northernmost portion of the Specific Plan Area is 0.25 mile from access to SR-180, while the southern portion of the Specific Plan Area generally runs along the city limits, adjacent to and circumventing several unincorporated lands under the jurisdiction of the County. The Specific Plan Area is located on the *Clovis*, *Fresno South, and Malaga*, *California* United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map, Range 20 East, Township 13 South, Section 36; Range 21 East, Township 13 South, Section 31; Range 20 East, Township 14 South, Sections 1, 2, 11, 13, 14, 23, 24; and Range 21 East, Township 14 South, Sections 5, 6, 7, 8, 17, 18, 19.

1.1.2 - Assessor's Parcel Number 480-080-05

This Land Evaluation and Site Assessment (LESA) Model is limited to evaluating relevant parcels mapped by the California Department of Conservation (DOC). The Specific Plan Area includes one approximately 17.85-acre parcel (Assessor's Parcel Number [APN] 480-080-05) located at the northwest corner of Chestnut Avenue and Florence Avenue, classified as Important Farmland (Prime Farmland, Farmland of Statewide Importance, and Farmland of Unique Importance) by the DOC (Exhibit 1 and Exhibit 2). Accordingly, this LESA Model is limited to evaluating whether the protected farmland on this parcel (hereby known as "APN 480-080-05") accurately reflects the significance of the farmland.

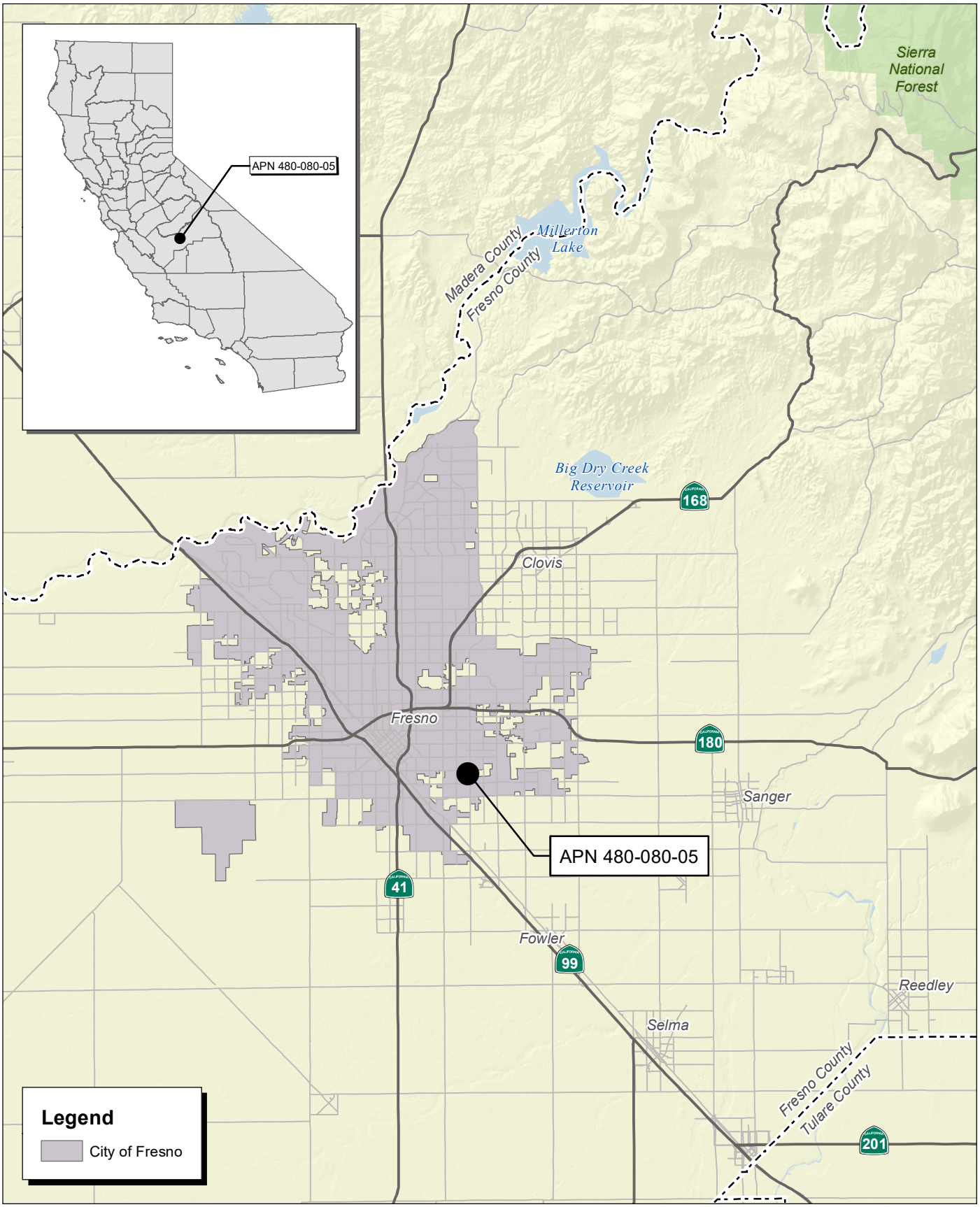
1.2 - Existing Conditions

APN 480-080-05 currently contains a single-family residential building and associated infrastructure. APN 480-080-05 also contains land used for agriculture, consisting of row crops, and a driveway to provide access to the building on-site. APN 480-080-05 is currently designated Residential, Medium Density by the Fresno General Plan (General Plan) and is zoned RS-5 (Residential Single-Family Medium Density).

The DOC Farmland Mapping and Monitoring Program (FMMP) maps APN 480-080-05 as containing approximately 12.95 acres of Prime Farmland, 4.40 acres of Farmland of Statewide Importance, and 0.50 acres of Urban and Built-up Land (refer to Exhibit 3).

1.3 - Project Summary

Under the proposed Specific Plan, APN 480-080-05 would be redesignated as Residential, Urban Neighborhood.



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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Exhibit 1
Regional Location Map

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CITY OF FRESNO
FRESNO CENTRAL SOUTHEAST AREA SPECIFIC PLAN
LAND EVALUATION AND SITE ASSESSMENT MODEL

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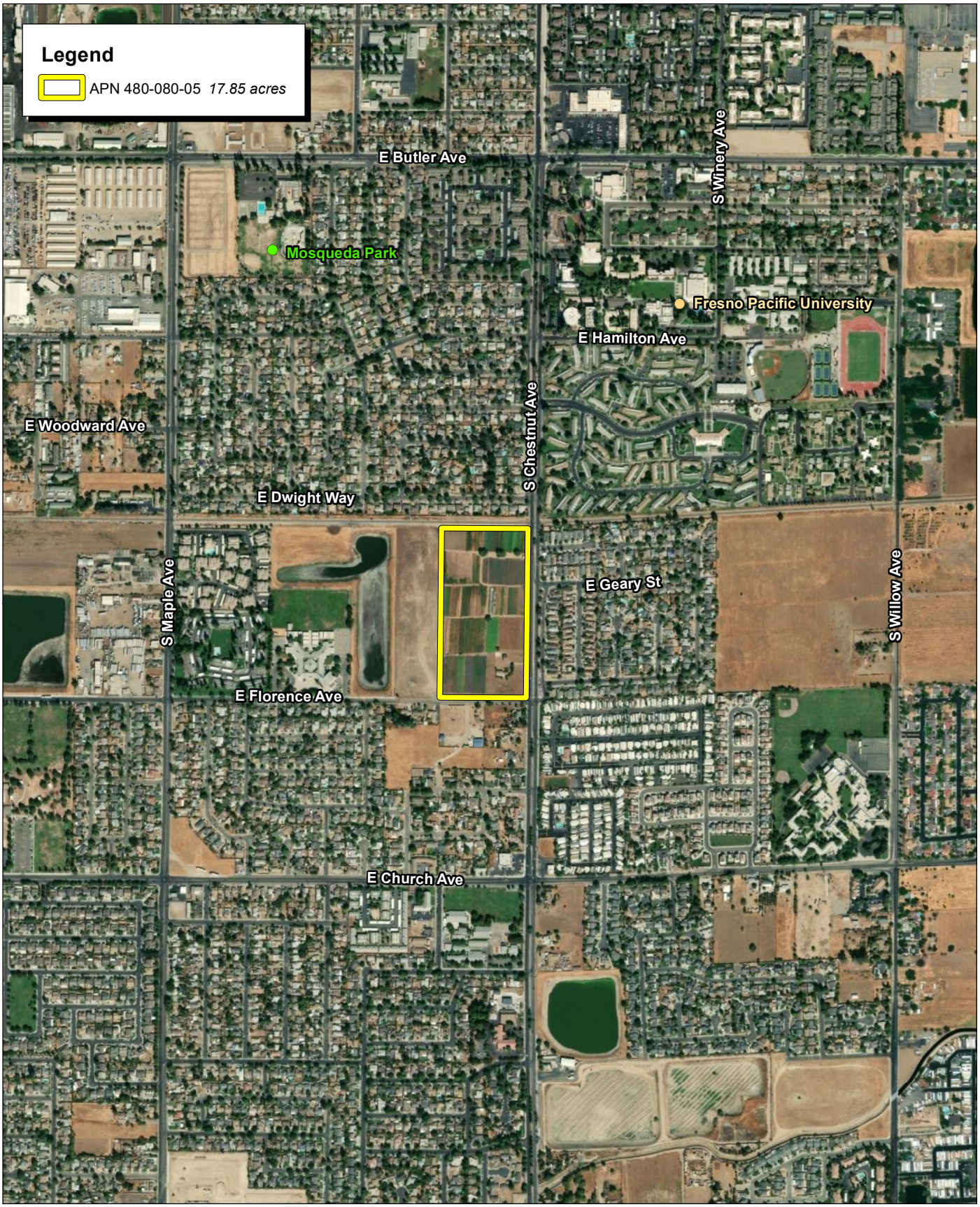

Source: ESRI Aerial Imagery. Fresno County. City of Fresno.

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Exhibit 2
Local Vicinity Map

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FRESNO CENTRAL SOUTHEAST AREA SPECIFIC PLAN
LAND EVALUATION AND SITE ASSESSMENT MODEL

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Source: ESRI Aerial Imagery. Fresno County. City of Fresno. California Department of Conservation.

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Exhibit 3
Important Farmland Map

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CITY OF FRESNO
FRESNO CENTRAL SOUTHEAST AREA SPECIFIC PLAN
LAND EVALUATION AND SITE ASSESSMENT MODEL

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SECTION 2: REGULATORY FRAMEWORK

2.1 - State

2.1.1 - Farmland Mapping and Monitoring Program

In 1975, the Soil Conservation Service (since renamed Natural Resources Conservation Service [NRCS]) of the United States Department of Agriculture (USDA) began farmland mapping efforts across the nation with the goal of producing agricultural resource maps based on soil quality and land use. As part of this nationwide agricultural land use mapping effort, the NRCS developed a series of definitions known as Land Inventory Monitoring criteria. The Land Inventory Monitoring criteria classify the land's suitability for agricultural production; suitability includes both the physical and clinical characteristics of soils and the actual land use. In the early 1980s, to continue these farmland mapping efforts in California, the FMMP was created within the DOC. The FMMP carries out these mapping activities on a continuing basis and with a greater level of detail; this is accomplished by using a modified Land Inventory Monitoring criteria. These criteria utilize the NRCS and Storie Index Rating Systems but also consider physical conditions, such as dependable water supply for agricultural production, soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The FMMP prepares Important Farmland maps for all counties in California, using the modified Land Inventory Monitoring criteria as well as current land use information.

The FMMP classifies farmland based on agricultural productivity characteristics as follows:

- **Prime Farmland:** Land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields.
- **Unique Farmland:** Land of lesser-quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but it may include non-irrigated orchards or vineyards as are found in some climatic zones in California.
- **Farmland of Statewide Importance:** Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.
- **Farmland of Local Importance:** Land of importance in the local agricultural economy, as determined by each county's Board of Supervisors and a 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.

The FMMP also provides the following land classifications for nonagricultural land:

- **Urban and Built-up Land:** Land occupied by structures with a building density of at least 1 unit to 1.5 acres or approximately 6 structures to a 10-acre parcel. This land is used for residential,

industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land:** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- **Water:** Perennial water bodies with an extent of at least 40 acres.
- **Areas Not Mapped:** Area which falls outside of the NRCS soil survey; not mapped by the FMMP.

2.1.2 - Williamson Act

In 1965, the California Land Conservation Act, also known as the Williamson Act, was adopted. This voluntary program allows property owners to have their property assessed for its agricultural production rather than at the current market value. The property owner is thus relieved of having to pay higher property taxes as long as the land remains in agricultural production. The purpose of the Williamson Act is to encourage property owners to continue to farm their land and to prevent the premature conversion of farmland to urban uses. Participation requires that the area consist of 100 contiguous acres of agricultural land under one or more ownerships.

Upon approval of a Williamson Act application by the Board of Supervisors of the county in which the land is located, the agricultural preserve is established and the land within the preserve is restricted to agricultural and compatible uses for at least 10 years. Williamson Act Contracts are automatically renewed for an additional 10-year period unless the property owner applies for non-renewal or early cancellation. The Williamson Act also contains provisions for cancellation of contracts under certain circumstances.

There are no active Williamson Act Contracts on APN 480-080-05 evaluated in this LESA Model or within APN 480-080-05's Zone of Influence.

2.2 - Local

2.2.1 - City of Fresno General Plan

The General Plan sets forth the following goals and policies relevant to agricultural resources:

Objective RC-9 Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policy RC-9-a Regional Cooperation. Work to establish a cooperative research and planning program with the Counties of Fresno and Madera, City of Clovis, and other public agencies to conserve agricultural land resources.

Policy RC-9-b Unincorporated Land in the Planning Area. Express opposition to residential and commercial development proposals in unincorporated areas within or adjacent to the Planning Area when these proposals would do any of the following:

- Make it difficult or infeasible to implement the General Plan;
- Contribute to the premature conversion of agricultural, open space, or grazing lands; or
- Constitute a detriment to the management of resources and/or facilities important to the region (such as air quality, water quantity and quality, traffic circulation, and riparian habitat).

Policy RC-9-c Farmland Preservation Program. In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project mitigate the loss of such farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulations, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some or all of the programs described by the California Council of Land Trusts.

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SECTION 3: FINDINGS

The LESA Model is divided into two components: Land Evaluation and Site Assessment. The following narrative describes the model inputs. The weighting factor for each input is shown in parentheses.

3.1 - Land Evaluation (50 Percent)

3.1.1 - Land Capability Classification (25 Percent)

The LESA Model assigns points based on the type of soils that comprise APN 480-080-05 and the proportion of APN 480-080-05 that is underlain by each type of soil (Exhibit 4). Table 1 summarizes the Class I, II, and III soils that underlie APN 480-080-05. The total Land Capability Class (LCC) score is **82.98**.

3.1.2 - Storie Index Rating (25 Percent)

The Storie Index is a quantitative rating of the agricultural value of the soils (0 to 100). A higher the score indicates the soil is more suitable for growing a wide range of crops. Lower scores indicate soils less desirable for agricultural uses. The Storie Indices for APN 480-080-05's soils are shown in Table 1. Each soils' proportion of APN 480-080-05 is multiplied against its Storie Index value. From there, the values are summed, which yields the overall Storie Index. In this case, the overall Storie Index score is **74.14**.

Table 1: Soils Summary

Soil Name and Abbreviation	Acres	Percent of Area	Land Capability Class (LCC)	LCC Score	Storie Index	Storie Index Score
Atwater sandy loam, 0 to 3 percent slopes (ArA)	2.05	11.48%	IIs	9.19	93	10.68
Atwater sandy loam, moderately deep, 0 to 3 percent slopes (AtA)	2.07	11.60%	IIIs	6.96	47	5.45
Greenfield sandy loam, 0 to 3 percent slopes (GtA)	9.23	51.71%	I	51.71	93	48.09
Greenfield sandy loam, moderately deep, 0 to 3 percent slopes (GuA)	2.51	14.06%	IIIs	8.44	46	6.47
Madera clay loam (Me)	1.99	11.15%	IIIs	6.69	31	3.46
Total	**17.85**	**100%**	**—**	**82.98**	**—**	**74.14**
Source: Web Soil Survey. 2025.						

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Source: ESRI Aerial Imagery. Fresno County. USDA Soils Data Mart, Fresno Eastern.

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Exhibit 4
Soils Map

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CITY OF FRESNO
FRESNO CENTRAL SOUTHEAST AREA SPECIFIC PLAN
LAND EVALUATION AND SITE ASSESSMENT MODEL

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3.2 - Site Assessment (50 Percent)

3.2.1 - Project Size (15 Percent)

APN 480-080-05 consists of approximately 11.28 acres of LCC I and II soils and approximately 6.57 acres of LCC III soils.

For project size, the LESA Model assigns 30 points for sites that contain 10 to 19 acres of LCC I and II soils and 0 points for sites that contain fewer than 10 acres of LCC III soils. The LESA Model instructs that the highest score should be selected, which, in this case, is 30. The overall project size score is therefore **30**.

3.2.2 - Water Availability (15 Percent)

The LESA Model scores water availability based on whether irrigated production is feasible and whether there are physical or economic restrictions. These factors are considered for both drought and non-drought years.

The LESA Model divides APN 480-080-05 into portions defined by the irrigation water source(s) supplying it (i.e., served by irrigation district water, groundwater, or a combination of both). The LESA Model then determines whether irrigated and dryland agriculture is feasible and if any physical or economic restrictions exist for each water resource supply portion of APN 480-080-05.

APN 480-080-05 is currently irrigated for agricultural use and depends on existing groundwater wells. As such, 100 percent of APN 480-080-05 is served by groundwater only.

Irrigated production is feasible in both non-drought and drought years. While APN 480-080-05 would have no physical or economic restrictions in non-drought years, it would have physical and economic restrictions in drought years because of reductions in water supply and the extra cost of pumping the same amount of groundwater from deeper within the existing wells. As such, APN 480-080-05 would have a Water Availability Score of **80**.

3.2.3 - Surrounding Agricultural Lands (15 Percent)

The LESA Model assigns points when Important Farmland accounts for 40 percent or more of surrounding land uses (Important Farmland includes Prime Farmland, Farmland of Statewide Importance, and Unique Farmland).

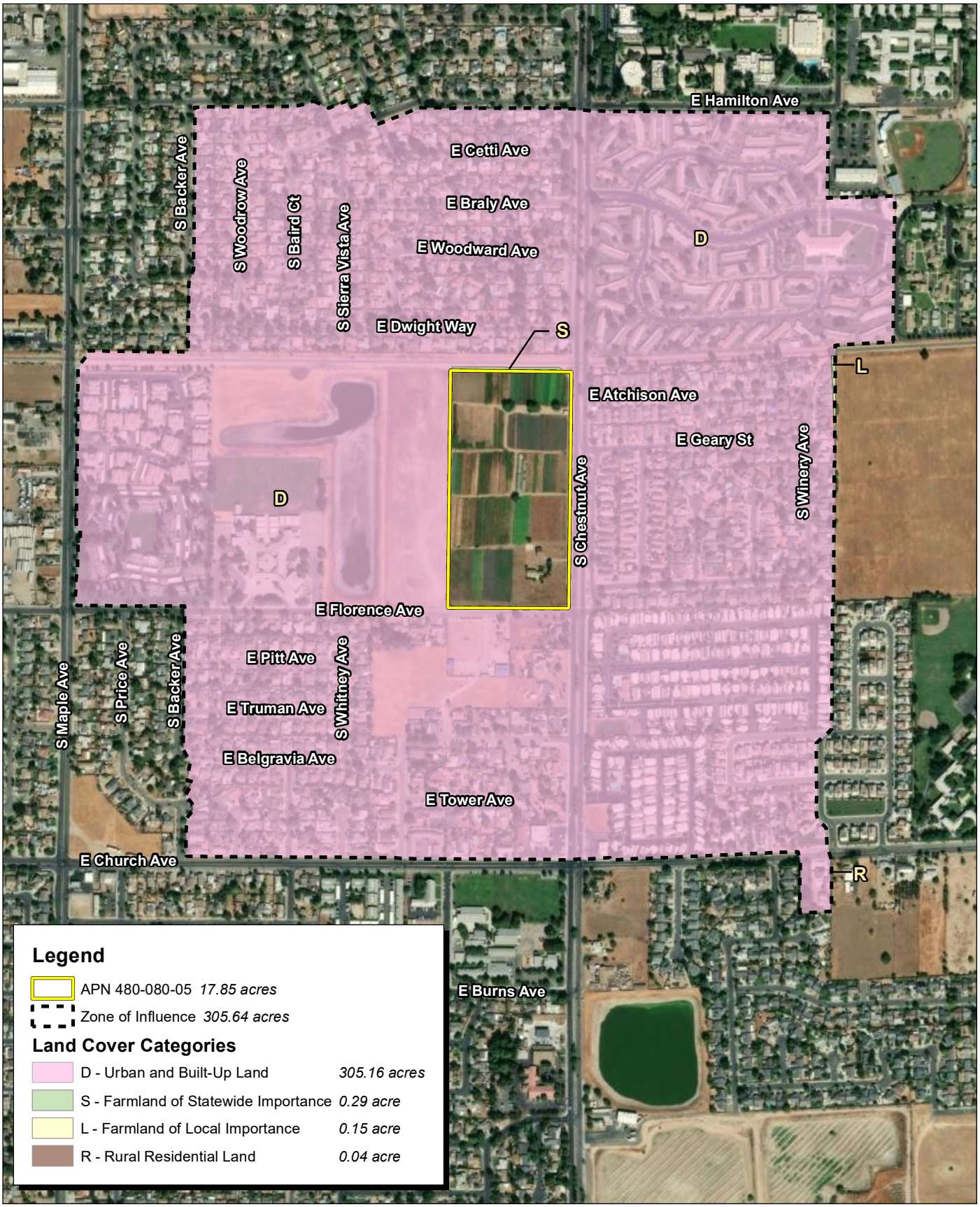
The Zone of Influence identifies the level of agricultural land use within a 0.25-mile radius of APN 480-080-05. Parcels that are intersected by the 0.25-mile buffer are included in their entirety. Properties within the Zone of Influence of APN 480-080-05 total 305.64 acres. There are 305.16 acres of Urban and Built-up Land; 0.29 acre of Farmland of Statewide Importance; 0.15 acre of Farmland of Local Importance; and 0.04 acre of Rural Residential Land (Exhibit 5).

Important Farmlands include lands designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Farmland of Local Importance is not recognized as Important Farmland for the purposes of analysis under the LESA Model. There are 0 acres, or 0 percent, of the total

surrounding acreage that are characterized as Important Farmland. Because less than 40 percent of the land within 0.25 mile of APN 480-080-05 is classified as Important Farmland, the surrounding agricultural land score is **0**.

3.2.4 - Protected Resources Lands (5 Percent)

The LESA Model assigns points when Protected Resource Lands account for 40 percent or more of surrounding land uses. Protected resource lands are those with active Williamson Act Contracts for which Notices of Non-Renewal have not been filed. There are no active Williamson Act Contracts within the Zone of Influence. Because less than 40 percent of the land within 0.25 mile of APN 480-080-05 is characterized as Protected Resource Lands, the score is **0**.



Source: ESRI Aerial Imagery. Fresno County. City of Fresno. California Department of Conservation.

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Exhibit 5
Zone of Influence

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CITY OF FRESNO
FRESNO CENTRAL SOUTHEAST AREA SPECIFIC PLAN
LAND EVALUATION AND SITE ASSESSMENT MODEL

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SECTION 4: CONCLUSION

4.1 - Important Farmland

Table 2 provides the LESA Model scoring summary. As shown in the table, when the weighting factors are applied, APN 480-080-05 yields a LESA Model score of **55.8**.

Table 2: Land Evaluation and Site Assessment Model Scoring Summary

Category	Factor	Points	Factor Weight	Weighted Points
Land Evaluation	Land Capability Class	82.98	0.25	20.7
	Storie Index	74.14	0.25	18.5
	Subtotal	—	*0.50*	*39.3*
Site Assessment	Project Size	30	0.15	4.5
	Water Resources Availability	80	0.15	12.0
	Surrounding Agricultural Lands	0	0.15	0
	Surrounding Protected Lands	0	0.05	0
	Subtotal	—	*0.50*	*16.5*
			Grand Total	**55.8**
			Significant Impact?	**No**
Source: FirstCarbon Solutions (FCS). 2025.				

Impacts to land that receives a LESA score between 40 and 59 are considered potentially significant only if the Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points. Projects that score between 40 to 59 points and have either a Land Evaluation or Site Assessment subscore less than 20 are not considered significant for the purposes of CEQA according to the LESA Model significance criteria. As shown in Table 2, while the total LESA score is **55.8**, the Site Assessment subscore is **16.5**. Therefore, the proposed project's conversion of agricultural land to nonagricultural use is considered less than significant for the purposes of CEQA.

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Appendix A:
Land Evaluation and Site Assessment Model Instruction Manual

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CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual

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CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual
1997

Department of Conservation
Office of Land Conservation

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EXECUTIVE SUMMARY

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. This Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects.

INTRODUCTION

Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions for which a LESA model is being designed to address. In short, the LESA methodology lends itself well to adaptation and customization in individual states and localities. Considerable additional information on LESA may be found in *A Decade with LESA - the Evolution of Land Evaluation and Site Assessment* (8).

Background on LESA Nationwide

In 1981, the federal Natural Resources Conservation Service (NRCS), known then as the Soil Conservation Service, released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment, or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, staff of the NRCS is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since its inception, the LESA approach has received substantial attention from state and local governments as well. Nationwide, over two hundred jurisdictions have developed local LESA methodologies (7). One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision making concerning the sitting of projects, changes in zoning, and spheres of influence determinations. LESA is

also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts.

Because of the inherent flexibility in LESA model design, there is a broad array of factors that a given LESA model can utilize. Some LESA models require the measurement of as many as twenty different factors. Over the past 15 years, the body of knowledge concerning LESA model development and application has begun to indicate that LESA models utilizing only several basic factors can capture much of the variability associated with the determination of the relative value of agricultural lands. In fact, LESA models with many factors are increasingly viewed as having redundancies, with different factors essentially measuring the same features, or being highly correlated with one another. Additional information on the evolution and development of the LESA approach is provided in, A *Decade with LESA -The Evolution of Land Evaluation and Site Assessment* (8).

Development of the California Agricultural LESA Model

In 1990 the Department of Conservation commissioned a study to investigate land use decisions that affect the conversion of agricultural lands in California. The study, conducted by Jones and Stokes Associates, Inc., was prepared in response to concerns about agricultural land conversion identified in the *California Soil Conservation Plan* (1) (developed by the ad hoc Soil Conservation Advisory Committee serving the Department of Conservation in 1987). Among these concerns was the belief that there was inadequate information available concerning the socioeconomic and environmental implications of farmland conversions, and that the adequacy of current farmland conversion impact analysis under the California Environmental Quality Act (CEQA) was not fully known. The findings of this study are included in the publication, *The Impacts of Farmland Conversion in California* (2).

Currently, neither CEQA nor the State CEQA Guidelines contains procedures or specific guidance concerning how agencies should address farmland conversion impacts of projects. The only specific mention of agricultural issues is contained in Appendix G of the State CEQA Guidelines, which states that a project will normally have a significant effect on the environment if it will “convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land”.

Among the conclusions contained in *The Impacts of Farmland Conversion in California* study was that the lack of guidance in how lead agencies should address the significance of farmland conversion impacts resulted in many instances of no impact analysis at all. A survey of environmental documents sent to the Governor's Office of Planning and Research (OPR) between 1986 and 1988 was performed. The survey

showed that among projects that affected at least 100 acres of land and for which agriculture was a project issue, nearly 30 percent received Negative Declarations, and therefore did not did not receive the environmental impact analysis that would be provided by an Environmental Impact Report (EIR).

Of those projects involving the conversion of agricultural lands and being the subject of an EIR, the study found a broad range of approaches and levels of detail in describing the environmental setting, performing an impact analysis, and providing alternative mitigation measures. The only agricultural impacts found to be significant in the EIRs were those involving the direct removal of prime agricultural lands from production by the project itself. The focus on prime farmland conversion in the projects surveyed was deemed to be related to the narrow direction provided in Appendix G of the State CEQA Guidelines.

The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, to develop an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). This legislation authorizes the Department of Conservation to develop a California LESA Model, which can in turn be adopted as the required amendment to Appendix G of the CEQA Guidelines.

Presentation of the California LESA Model

The California LESA Model is presented in this Manual in the following sections:

Section I. provides a listing of the information and tools that will typically be needed to develop LESA scores for individual projects.

Section II. provides step-by-step instructions for scoring each of the six Land Evaluation and Site Assessment factors that are utilized in the Model, with an explanation of the rationale for the use of each factor.

Section III. defines the assignment of weights to each of the factors relative to one another, and the creation of a final LESA score for a given project.

Section IV. assigns scoring thresholds to final LESA scores for the purpose of determining the significance of a given project under CEQA where the conversion of agricultural lands is a project issue.

Additionally:

Appendix A. provides an abridged set of step-by-step LESA scoring instructions that can be used and reproduced for scoring individual projects.

Appendix B. demonstrates the application of the California LESA Model to the scoring of a hypothetical project.

The California Agricultural LESA Model

Section I. Required Resources and Information

The California Land Evaluation and Site Assessment (LESA) Model requires the use and interpretation of basic land resource information concerning a given project. A series of measurements and calculations is also necessary to obtain a LESA score. Listed below are the materials and tools that will generally be needed to make these determinations.

Land Evaluation and Site Assessment calculations will require:

1. A calculator or other means of tabulating numbers

2. An accurately scaled map of the project area, such as a parcel map

3. A means for making acreage determinations of irregularly shaped map units. Options include, from least to most technical:

    - A transparent grid-square or dot-planimeter method of aerial measurement

    - A hand operated electronic planimeter

    - The automatic planimetry capabilities of a Geographic Information System (GIS)

4. A modern soil survey, generally produced by the USDA Natural Resources Conservation Service, which delineates the soil-mapping units for a given project. [Note: If modern soil survey information is not available for a given area of study, it may be necessary to draw upon the services of a professional soil scientist to perform a specific project survey].

5. Maps that depict land uses for parcels including and surrounding the project site, such as the Department of Conservation's Important Farmland Map series, the Department of Water Resources Land Use map series, or other appropriate information.

6. Maps or information that indicate the location of parcels including and surrounding the project site that are within agricultural preserves, are under public ownership, have conservation easements, or have other forms of long term commitments that are considered compatible with the agricultural use of a given project site.

Section II. Defining and Scoring the California Land Evaluation and Site Assessment Model Factors

This section provides detailed step-by-step instructions for the measurement and scoring of each of the Land Evaluation and Site Assessment factors that are utilized in the California Agricultural LESA Model, and is intended to serve as an introduction to the process of utilizing the Model. Once users are familiar with the Model, a more streamlined set of instructions and scoring sheets is available in Appendix A. In addition, the scoring of a hypothetical project is presented using these scoring sheets in Appendix B.

Scoring of Land Evaluation Factors

The California LESA Model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Consultation should be made with NRCS staff (field offices exist in most counties) to assure that valid and current soil resource information is available for the project site. Copies of soil surveys are available at local field offices of the NRCS, and may also be available through libraries, city and county planning departments, the Cooperative Extension, and other sources. In addition, a Certified Professional Soil Scientist (CPSS) may also be consulted to obtain appropriate soil resource information for the project site. A directory of CPSS registered soil consultants is available through the Professional Soil Scientists Association of California, P.O. Box 3213, Yuba City, CA 95992-3213; phone: (916) 671-4276.

1) The USDA Land Capability Classification (LCC) - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops, and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.

2) The Storie Index - The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are

considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In some situations, only the USDA Land Capability Classification information may be currently available from a given published soil survey. However, Storie Index ratings can readily be calculated from information contained in soil surveys by qualified soil scientists. Users are encouraged to seek assistance from NRCS staff or Certified Professional Soil Scientists to derive Storie Index information for the soils as well. If, however, limitations of time or resources restrict the derivation of Storie Index ratings for the soils within a region, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating. Under this scenario the LCC rating would account for 50 percent of the overall LESA factor weighting.

Identifying a Project's Soils

In order to rate the Land Capability Classification and Storie Index factors, the evaluator must identify the soils that exist on a given project site and determine their relative proportions. A **Land Evaluation Worksheet** (Table 1A.) is used to tabulate these figures, based upon the following:

Step 1.
Locate the project on the appropriate map sheet in the Soil Survey.

Step 2.
Photocopy the map sheet and clearly delineate the project boundaries on the map, paying close attention to the map scale.

Step 3.
Identify all of the soil mapping units existing in the project site (each mapping unit will have a different map unit symbol) and enter the each mapping unit symbol in **Column A** of the **Land Evaluation Worksheet** (Table 1A).

Step 4.
Calculate the acreage of each soil mapping unit present within the project site using any of the means identified in **Section 1**, **Required Resources and Information**, and enter this information in **Column B**.

Step 5.

Divide the acres of each soil mapping unit by the total project acreage to determine the proportion of each unit that comprises the project, and enter this information in Column C.

1. Land Evaluation - The Land Capability Classification Rating

Step 1.
In the Guide to Mapping Units typically found within soil surveys, identify the Land Capability Classification (LCC) designation (e.g., IV-e) for each mapping unit that has been identified in the project and enter these designations in **Column D** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
From Table 2., **The Numeric Conversion of Land Capability Classification Units**, obtain a numeric score for each mapping unit, and enter these scores in **Column E**.

Step 3.
Multiply the proportion of each soil mapping unit (**Column C**) by the LCC points for each mapping unit (**Column E**) and enter the resulting scores in **Column F**.

Step 4.
Sum the LCC scores in **Column F** to obtain a single LCC Score for the project. Enter this LCC Score in **Line 1** of the **Final LESA Worksheet** (Table 8)

Table 2. Numeric Conversion of Land Capability Classification Units

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

Table 1A.
Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Totals		(Must Sum to 1.0)		***LCC Total***		***Storie Index Total***	

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
Total Acres			
Project Size Scores			

Highest Project Size Score

2. Land Evaluation - The Storie Index Rating Score

Step 1.
From the appropriate soil survey or other sources of information identified in Appendix C, determine the Storie Index Rating (the Storie Index Rating is already based upon a 100 point scale) for each mapping unit and enter these values in **Column G** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
Multiply the proportion of each soil mapping unit found within the project (**Column C**) by the Storie Index Rating (**Column G**), and enter these scores in **Column H**.

Step 3.
Sum the Storie Index Rating scores in **Column H** to obtain a single Storie Index Rating score for the project. Enter this Storie Index Rating Score in **Line 2** of the **Final LESA Worksheet** (Table 8)

Scoring of Site Assessment Factors

The California LESA Model includes four Site Assessment factors that are separately rated:

1. **The Project Size Rating**
2. **The Water Resources Availability Rating**
3. **The Surrounding Agricultural Land Rating**
4. **The Surrounding Protected Resource Land Rating**

1. Site Assessment - The Project Size Rating

The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating in Table 1A. The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining which grouping generates the highest Project Size Score.

Step 1.
Using information tabulated in **Columns B** and **D** of the **Land Evaluation Worksheet** (Table 1A), enter acreage figures in **Site Assessment Worksheet 1. - Project Size** (Table 1B) using either **Column I, J,** or **K** for each of the soil mapping units in a given project.

Step 2.
Sum the entries in **Column I** to determine the total acreage of Class I and II soils on the project site.

Sum the entries in **Column J** to determine the total acreage of Class III soils on the project site.

Sum the entries in **Column K** to determine the total acreage of Class IV and lower rated soils on the project site.

Step 3.
For each of the three columns, apply the appropriate scoring plan provided in Table 3, **Project Size Scoring**, and enter the **Project Size Score** for each grouping in the **Site Assessment Worksheet 1. - Project Size** (Table 1B). Determine which column generates the highest score. The highest score becomes the overall **Project Size Score**. Enter this number in **Line 3** of the **Final LESA Scoresheet** (Table 8).

Table 3. Project Size Scoring

LCC Class I or II soils		LCC Class III soils		LCC Class IV or lower	
Acres	***Score***	***Acres***	***Score***	***Acres***	***Score***
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		

Explanation of the Project Size Factor

The Project Size factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3).

The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

While the size of a given farming operation may in many cases serve as a direct indicator of the overall economic viability of the operation, The California Agricultural LESA Model does not specifically consider the issue of economic viability. The variables of economic viability for a specific farm include such factors as the financial management and farming skills of the operator, as well as the debt load and interest rates being paid by an individual operator, which are issues that cannot readily be included in a statewide LESA model.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils could also be derived, provided there is a sufficiently large acreage present. Acreage figures utilized in scoring are the synthesis of interviews that were conducted statewide for growers of a broad range of crops. In the interviews growers were queried as to what acreage they felt would be necessary in order for a given parcel to be considered attractive for them to farm.

The USDA LCC continues to be the most widely available source of information on land quality. Project Size under this definition is readily measurable, and utilizes much of the same information needed to score a given project under the Land Evaluation component of the methodology. This approach also complements the LE determination, which, while addressing soil quality, does not account for the total acreage of soils of given qualities within a project.

This approach allows for an accounting of the significance of high quality agricultural land as well as lesser quality agricultural lands, which by virtue of their large area can be considered significant agricultural resources. In this way, no single acreage figure for a specific class of soils (e.g., soils defined as “prime”) is necessary.

2. Site Assessment - The Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. **Site Assessment Worksheet 2. - Water Resources Availability Worksheet** (Table 4) is used to tabulate the score.

Step 1.
Identify the different water resource types that are used to supply the proposed project site (for example, irrigation district water, ground water, and riparian water are considered to be three different types of water resources). Where there is only one water source identified for the proposed project, skip to Step 4.

Step 2.
Divide the proposed project site into portions, with the boundaries of each portion being defined by the irrigation water source(s) supplying it. A site that is fully served by a single source of water will have a single portion, encompassing the entire site. A site that is fully served by two or more sources that are consistently merged together to serve a crop's needs would also have a single portion. (e.g., a portion of the proposed project may receive both irrigation district and groundwater). If the project site includes land that has no irrigation supply, consider this acreage as a separate portion as well. Enter the water resource portions of the project in **Column B** of Table 4, **Site Assessment Worksheet 2. - Water Resources Availability**.

[As an example, a hypothetical project site is determined to have four separate water supply portions:

Portion 1 is served by irrigation district water only;
Portion 2 is served by ground water only;
Portion 3 is served by *both* irrigation district water and ground water;
Portion 4 is not irrigated at all.**]**

Step 3.
Calculate the proportion of the total project area that is represented by each water resource portion, and enter these figures in **Column C** of **Site Assessment Worksheet 2. - Water Resources Availability**, verifying that the sum of the proportions equals 1.0.

Table 4. Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	

Step 4.

For each water resource supply portion of the project site, determine whether irrigated and dryland agriculture is *feasible*, and if any *physical* or *economic restrictions* exist, during both *drought* and *non-drought* years. These italicized terms are defined below:

- A *physical restriction* is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices -- such as planting a crop that uses less water, or leaving land fallow. (This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction -- for example by requiring the planting of salt-tolerant plants, or by effectively reducing the amount of available water.)

- An *economic restriction* is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of ground water from deeper within an aquifer.)

- Irrigated agricultural production is *feasible* when:

  1) There is an existing irrigation system on the project site that can serve the portion of the project identified in Step 2;

  2) *Physical* and/or *economic restrictions* are not severe enough to halt production; and

  3) It is possible to achieve a viable economic return on crops though irrigated production.

(A major question that should be considered is, if there is an irrigated crop that can be grown within the region, can it actually be grown on the project site? Depending upon the jurisdiction, some typical crops that have a large water demand may not be feasible to grow on the project site, while others that require less water are feasible. Information to aid in making this determination can be obtained from county agricultural commissioners, the UC Cooperative Extension, irrigation districts, and other sources.)

- *Dryland production* is *feasible* when rainfall is adequate to allow an economically viable return on a nonirrigated crop.

- A *drought year* is a year that lies within a defined drought period, as defined by the Department of Water Resources or by a local water agency. Many regions of the state are by their arid nature dependent upon imports of water to support irrigated agriculture. These regions shall not be considered under periods of drought unless a condition of drought is declared for the regions that typically would be providing water exports.

Step 5.
Each of the project's water resource supply portions identified in **Step 2** is scored separately. Water Resources Availability scoring is performed by identifying the appropriate condition that applies to each portion of the project, as identified in Table 5., **Water Resource Availability Scoring**. Using Table 5, identify the option that best describes the water resource availability for that portion and its corresponding water resource score. Option 1 defines the condition of no restrictions on water resource availability and is followed progressively with increasing restrictions to Option 14, the most severe condition, where neither irrigated nor dryland production is considered feasible. Enter each score into **Column D** of Table 4.

Step 6.
For each portion of the project site, determine the section's weighted score by multiplying the portion's score (**Column D**), by its proportion of the project area (**Column C**), and enter these scores in **Column E**, the weighted Water Availability Score. Sum the **Column E** scores to obtain the total Water Resource Availability Score, and enter this figure in **Line 4** of the **Final LESA Score Sheet** (Table 8).

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Explanation of the Water Resource Availability Rating

The Water Resource Availability factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3). During the development of this factor it became apparent that certain conditions unique to California would need to be represented in this system.

First, it was decided to classify water reliability based upon the *effects* on agricultural production (such as being forced to change to lower-value crops, putting in groundwater pumps, or cutting back on the acreage farmed) rather than the actual *type* of limitation (such as a limitation on the quantity, frequency, or duration of water delivery). LESA systems have traditionally focused on the latter. However, it was found that the many types of limitations are too varied in California to adequately represent in the LESA system. In the Statewide LESA system, these effects are referred to as *restrictions*.

Second, the factor had to include an interrelation with cost. The historical shortages and unreliability of California water use has led to the establishment of various interconnected and dual systems. Probably more than any other state, reliability is related with cost -- a more reliable water supply can sometimes be obtained, but at a greater cost. Therefore, *restrictions* were classified into two major categories -- *physical* and *economic*. These are separated because, generally, a physical restriction is more severe than an economic restriction and this should be reflected in the LESA system.

Third, the factor had to include the effects of the drought cycle in California. During the drought of 1987 to 1992, many agricultural areas of the state experienced water shortages. The impact of these shortages resulted in a number of different actions. Some areas were able to avoid the worst effects of the drought simply by implementing water conservation measures. Other areas were able to obtain additional water supplies, such as by securing water transfers or simply pumping more groundwater, but at an increase in the overall price of water. Other options included shifting crops, replanting to higher value crops to offset the increase in water prices, or leaving land fallow. A project site that experiences restrictions during a drought year should not be scored as high as a similar project site that does not.

The easiest way to make determinations of irrigation feasibility and the potential restrictions of water sources is to investigate the cropping history of the project site. For instance, was the water supply to the project site reduced by the local irrigation district during the last drought? If the site has a ground water supply, do area ground water levels sometimes drop to levels that force markedly higher energy costs to pump the water?

If the history of the project site is unavailable (including when the site has recently installed an irrigation system), look at the history of the general area. However, remember that the project site may have different conditions than the rest of the region. For instance, the project site could have an older water right than others in the region. Although certain areas of the state had severe restrictions on water deliveries during the last drought, some parcels within these areas had very secure deliveries due to more senior water rights. If this was the case in the region of the project site, check the date of water right and compare it with parcels that received their total allotment during the last drought. The local irrigation district should have information on water deliveries.

The scoring of water resource availability for a project site should not just reflect the adequacies of water supply in the past -- it should be a *prediction* of how the water system will perform in the future. For instance, a local jurisdiction might find that the allocation of flows to stream and river systems has been recently increased for environmental reasons, which will decrease the future available surface water supply. In this case, the past history of the site is not an adequate representation of future water supply and water system performance.

3. Site Assessment - The Surrounding Agricultural Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence" (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The determination of the ZOI is described below, and is illustrated with an example in Figure 1.

Defining a Project's "Zone of Influence"

Step 1.
Locate the proposed project on an appropriate map and outline the area and dimensions of the proposed project site.

Step 2.
Determine the smallest rectangle that will completely contain the project site (Rectangle A).

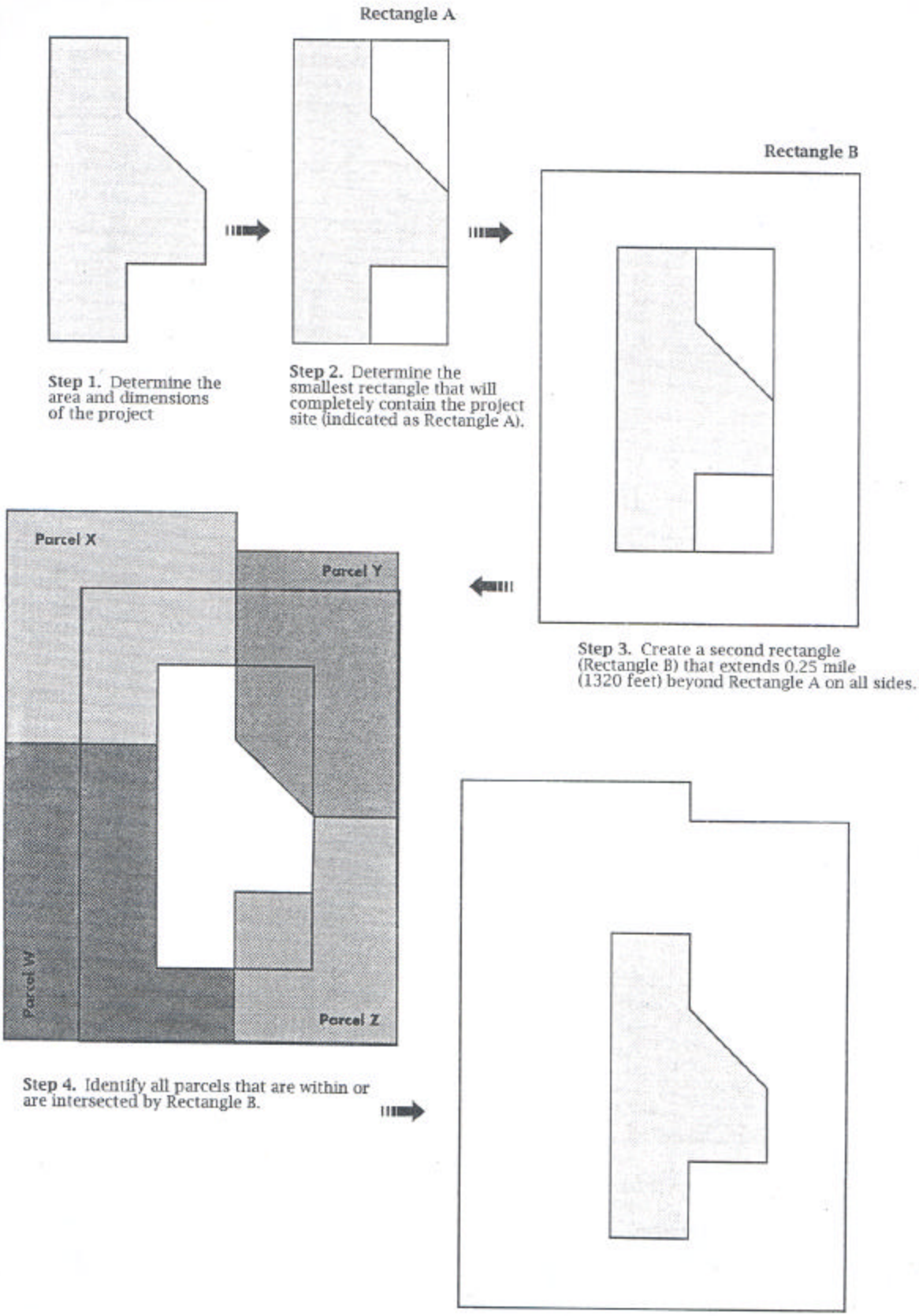
Step 3.
Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

Step 4.
Identify all parcels that are within or are intersected by Rectangle B.

Step 5.
Define the project site's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

[In the illustration provided in Figure 1, Parcels W, X, and Y extend beyond Rectangle B and are therefore included in their entirety in defining the project site's Zone of Influence.**]**

Figure 1: Defining a Project's Zone of Influence



Step 1. Determine the area and dimensions of the project

Step 2. Determine the smallest rectangle that will completely contain the project site (indicated as Rectangle A).

Step 3. Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

Step 4. Identify all parcels that are within or are intersected by Rectangle B.

Step 5. Define the project's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

In this example, parcels W, X, and Y extend beyond Rectangle B and are therefore included in the their entirety in defining the project's zone of influence.

Measuring Surrounding Agricultural Land

Step 1.
Calculate the percentage of the project's Zone of Influence that is currently producing agricultural crops. **[**This figure can be determined using information from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, or direct site inspection. For agricultural land that is currently fallowed, a determination must be made concerning whether the land has been fallowed as part of a rotational sequence during normal agricultural operations, or because the land has become formally "committed" to a nonagricultural use. Land that has become formally committed, whether fallow or not, should not generally be included in determining the proportion of the Zone of Influence that is agricultural land. For further information on the definition of Committed Land, refer to the following Explanation of the Surrounding Agricultural Land Rating.**]**

Step 2.
Based on the percentage of agricultural land in the ZOI determined in Step 1, assign a Surrounding Agricultural Land score to the project according to Table 6, and enter this score in **Line 5** of the **Final LESA Scoresheet** (Table 8) .

Table 6. Surrounding Agricultural Land Rating

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	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

Explanation of the Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a "Zone of Influence" that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. In a simple example, a single one quarter mile square project (160 acres) would have a Zone of Influence that is a minimum of eight times greater (1280 acres) that the parcel itself.

Land within a Zone of Influence that is observed to be fallow will require a case by case determination of whether this land should be considered agricultural land. The Department of Conservation's Important Farmland Maps may be of assistance in making this determination. In addition, land currently in agricultural production may be designated as being "committed" to future nonagricultural development. The Department of Conservation's Farmland Mapping and Monitoring Program has a land use designation of Land Committed to Nonagricultural Use, and is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors. The "committed" land must be so designated in an adopted local general plan, and must also meet the requirements of either (a) or (b) below:

(a). It must have received one of the following final discretionary approvals:

1. Tentative subdivision map (approved per the Subdivision Map Act);
2. Tentative or final parcel map (approved per the Subdivision Map Act);
3. Recorded development agreement (per Government Code §65864);
4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does <u>not</u> qualify as a permanent commitment.

<u>Or</u>

(b) It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:

1. Recorded Resolution of Intent to form a district and levy an assessment;
2. Payment of assessment;
3. Sale of bonds;
4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;
5. Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence."

Lead agencies are encouraged to identify Land Committed to Nonagricultural Use within a project's ZOI and make the determination whether this land, while still in agricultural production, be considered nonagricultural land for the purposes of the calculation performed here.

4. Site Assessment - The Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Instructions for the Surrounding Protected Resource Land Rating

Step 1.
Utilizing the same "Zone of Influence" (ZOI) area calculated for a project under the Surrounding Agricultural Land Rating, calculate the percentage of the ZOI that is Protected Resource Land, as defined above.

Step 2.
Assign a Surrounding Protected Resource Land score to the project according to Table 7, and enter this score on **Line 6** of the **Final LESA Scoresheet** (Table 8).

Table 7. Surrounding Protected Resource Land Rating

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	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

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Table 8. Final LESA Scoresheet

A	B		C		D
Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	<Line 1>_____	X	0.25	=	_____
2. Storie Index Rating	<Line 2>_____	X	0.25	=	_____
Site Assessment					
1. Project Size	<Line 3>_____	X	0.15	=	_____
2. Water Resource Availability	<Line 4>_____	X	0.15	=	_____
3. Surrounding Agricultural Lands	<Line 5>_____	X	0.15	=	_____
4. Protected Resource Lands	<Line 6>_____	X	0.05	=	_____
			Total LESA Score (sum of weighted factor ratings)		<Line 7>_____

Section IV. California Agricultural LESA Scoring Thresholds - Making Determinations of Significance Under CEQA

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted as detailed in Sections 2 and 3. Just as with the scoring of individual factors that comprise the California Agricultural LESA Model, final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA review process. Scoring thresholds are based upon both the total LESA score as well as the component LE and SA subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). Table 9 presents the California Agricultural LESA scoring thresholds.

Table 9. California LESA Model Scoring Thresholds

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

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Appendix B: Project LESA Scoring Tables

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Land Capability Classification (LCC) and Storie Index Scores

Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
ArA	2.05	0.1148	IIs	80	9.19	93	10.68
AtA	2.07	0.1160	IIIs	60	6.96	47	5.45
GtA	9.23	0.5171	I	100	51.71	93	48.09
GuA	2.51	0.1406	IIIs	60	8.44	46	6.47
Me	1.99	0.1115	IIIs	60	6.69	31	3.46
TOTAL	17.85	1			82.98		74.14

Total Acres

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V	Total Class VI	Total Class VII
9.23	2.05	6.57				

Project Size Score

	LCC Class I-II	LCC Class III	LCC Class IV-VIII	N/A
ArA	2.05			
AtA		2.07		
GtA	9.23			
GuA		2.51		
Me		1.99		

Table 3-Proj. Size Scoring

LCC Class I-II		LCC Class III		LCC Class IV-VIII	
Acres	Score	Acres	Score	Acres	Score
80 +	100	160 +	100	320 +	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		

Total Acres	11.28	6.57	0	
Project Size Scores	30	0	0	

Total Class I	Total Class II	Total Class III	Total Class IV	Total Class V	Total Class VI	Total Class VII

Highest Project Size Score 30

Total Acres	11.28	6.57
Score	30	0

TOTAL PROJECT SIZE RATING= 30

Project Portion	Water Source	Proportion	Water Availability Score	Weighted Availability Score (C x D)
1	Irrigation District Water Only			0
2	Groundwater only	1	80	80
3	Both irrigation and ground			0
4	Not irrigated at all			0
	Total	1	Total water resource score	80

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	--	--	50
9	YES	NO	YES	NO	--	--	45
10	YES	YES	NO	NO	--	--	35
11	YES	YES	YES	NO	--	--	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

in

Table 6: Surrounding Ag Land Rating

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	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

Table 7: Surrounding Protected Resource Land Score

Percent of Project's Zone of Influence	Surround Ag Land Score
90-100%	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

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total=1.0)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	82.98		0.25		20.7
2. Storie Index Rating	74.14		0.25		18.5
	Subtotal		0.5		**39.3**
Site Assessment					
1. Project Size	30		0.15		4.5
2. Water Resource Availability	80		0.15		12.0
3. Surrounding Agricultural Lands	0		0.15		0.0
4. Protected Resource Lands	0		0.05		0.0
	Subtotal		0.5		**16.5**
				TOTAL	55.8

Table 9. California LESA Model Scoring Thresholds

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