

# Coyne Ranch Land Evaluation and Site Assessment

Prepared for:

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# 1.0 INTRODUCTION

Appendix G of the California Environmental Quality Act (CEQA) Guidelines identifies the California Agricultural Land Evaluation and Site Assessment (LESA) Model as an optional model to use in assessing impacts on agriculture and farmland. Based on the current conditions of the proposed project site as agricultural land, this LESA Model was prepared for the proposed Coyne Ranch Specific Plan (or Project).

The LESA Model describes an approach for rating the relative quality of land resources using specific measurable features. The LESA system is a point-based method composed of six different factors: Land Capability Classification, Storie Index, Project Size, Water Resource Availability, Surrounding Agricultural Land, and Surrounding Protected Resource Land.

The two Land Evaluation factors (Land Use Capability Classification and Store Index) are based on measures of soil resource quality. The four Site Assessment factors provide measures of a 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. The maximum attainable score is 100 points. This project score becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds (DOC 1997).

# 2.0 PROJECT DESCRIPTION

## 2.1 ENVIRONMENTAL SETTING

The Coyne Ranch Specific Plan site is located on approximately 129.45 acres of agricultural land located in unincorporated Imperial County, California approximately 0.6 miles north of Interstate 8 and approximately 0.9 miles southeast of Seeley, CA. The site consists of a single parcel (APN 510-450-009) bounded on the north by Seeley Drain, on the south by Elder Lateral and Ross Avenue, on the east by Bennett Road, and on the west by a dirt agricultural road. Neighboring uses on all sides consist of agricultural land. The Sunbeam Lake Resort is to the southwest and a single-family residence is located in to the north east.

## 2.2 PROJECT CHARACTERISTICS

The proposed Coyne Ranch Specific Plan is a small-scale residential community with a small park, detention basin and a proposed walking route through the subdivision that would allow pedestrian access to Sunbeam Lake Park. The Plan includes 443 single-family units and 180 multi-family units.

# 3.0 LESA EVALUATION

The LESA Model is used to rate the quality and availability of agricultural resources for the Project site. The LESA Model was also used to identify whether the proposed Project would meet the threshold criteria as a significant impact to Agricultural Resources under CEQA Guidelines. The

LESA Model evaluates land use and site assessment factors to identify if the Project would result in a significant impact on agricultural resources. The factors are evaluated in the following sections.

### 3.1 LAND EVALUATION

The Land Evaluation portion of the LESA Model focuses on two main components with separate ratings:

1. The Land Capability Classification (LCC) Rating: The LCC indicates the suitability of soils for most kinds of crops. Soils are rated on a scale from Class I to Class VIII. Soils having the fewest limitations receive the highest rating.
2. The Storie Index Rating: The Storie Index provides a numeric rating (based on a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture use. This rating is based on soil characteristics only. Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 81 to 100; grade 2 (good), 61 to 80; grade 3 (fair), 41 to 60; grade 4 (poor), 21 to 40; grade 5 (very poor), 11 to 20; and grade 6 (nonagricultural), 10 or less.

The United States Department of Agriculture survey identified two soil types on the Coyne Ranch Specific Plan site. These include Holtville silty clay, wet; and Imperial-Glenbar silty clay loams, wet 0 to 2 percent slopes. Figure 1 depicts the distribution of soil types on the project site. Table 1 details the varieties of soils found on the Project site, along with their Capability Class and Storie Index Rating.

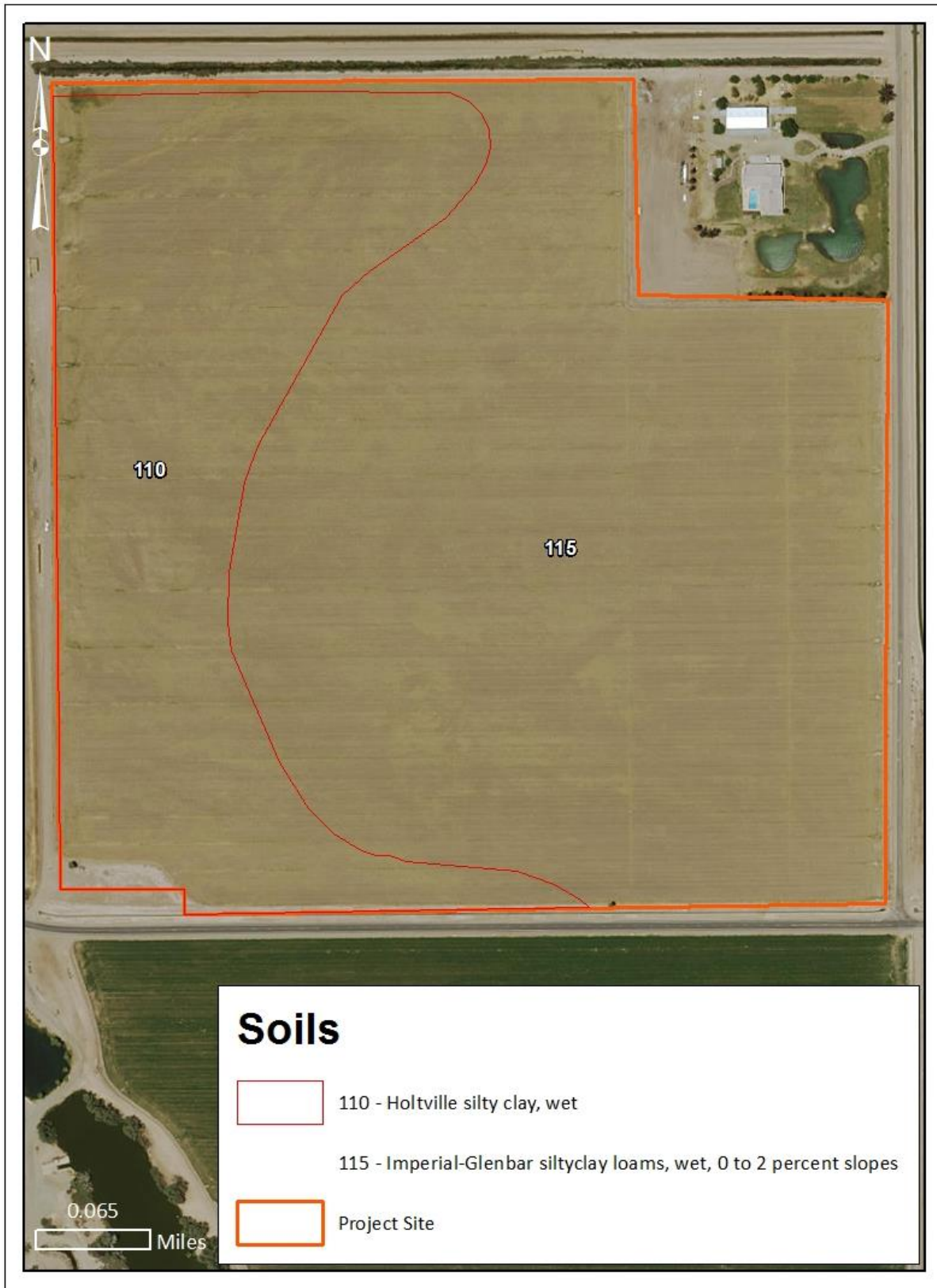
**TABLE 1  
SOIL SUITABILITY - MAP SYMBOL MAPPING UNIT CAPABILITY**

| Map Symbol | Mapping Unit  | Capability Class | Storie Index Rating |
|------------|---|------------------|---------------------|
| 110        | Holtville silty clay, wet                                     | IIw-5            | 45                  |
| 115        | Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes | IIIw-6           |                     |
|            | Glenbar, WET  |                  | 67                  |
|            | Imperial, WET   |                  | 56                  |

Source: USDA 1981; websoilsurvey 2016.

IIw-5 capability rating indicates soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices. The letter 'w' shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage). The numeral '6' indicates that a problem or limitation is caused by salt or alkali.

IIIw-6 capability rating indicates soils that have severe limitations that reduce the choice of plants, or that require special conservation practices, or both. The letter 'w' shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage). The numeral '6' indicates that a problem or limitation is caused by salt or alkali.



Source: County of Imperial - Planning and Development Services County of Imperial, California (2013), ESRI – ArcMAP Service (2016), United States Department of Agriculture, Natural Resource Conservation Service – Soil Survey Geographic (SSURGO) database for Imperial County, California, Imperial Valley Area (2008),

**FIGURE 1 – SOILS MAP**

The LESA Model assigns ratings to each Land Capability Classification (LCC) and multiplies that number by the proportion of the project site that contains each soil class to find the LCC Score (Column C x Column E = Column F). A Storie Index score is calculated by multiplying the proportion of the project in each soil type by the soil type's Storie Index rating (Column C x Column G = Column H). **Table 2** provides a summary of the Land Evaluation (LE) scores. (The final LE and Site Assessment [SA] scores are entered into the Final LESA Score Sheet as shown in Table 6 on page 10.

**TABLE 2  
LAND CAPABILITY CLASSIFICATION (LCC) AND STORIE INDEX SCORE**

| A   | B             | C                           | D      | E          | F           | G            | H            |
|---|---------------|-----------------------------|--------|------------|-------------|--------------|--------------|
| Map Symbol - Soil   | Acres         | Portion of the Project Area | LCC*   | LCC Rating | LCC Score   | Storie Index | Storie Score |
| 110 Holtville silty clay, wet                                     | 45.9          | 35.1%                       | llw-5  | 80         | 28.1        | 45.0         | 15.8         |
| 115 Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes | 84.9          | 64.9%                       | lllw-6 | 60         | 38.9        | 61.5**       | 39.9         |
| Glenbar, WET  |               |                             |        |            |             | 67.0         |              |
| Imperial, WET   |               |                             |        |            |             | 56.0         |              |
| <b>TOTALS</b>   | <b>130.8*</b> | <b>100.0%</b>               | --     | --         | <b>67.0</b> | --           | <b>55.7</b>  |

Source: [websoilsurvey.sc.egov.usda.gov/APP/WebSoilSurvey.aspx](http://websoilsurvey.sc.egov.usda.gov/APP/WebSoilSurvey.aspx) \* See Table 1 for a description of the soil's LCC rating.

\*\* The Glenbar, wet soil type is 67 and the Imperial, wet is 56. These subtypes are each 40%, so thus the total percentage of the combined soil types is 80%. The weighted calculation is  $[(67 \times 40)/80] + [(56 \times 40)/80] = (67 \times 1/2) + (56 \times 1/2) = (33.5) + (28) = 61.5$ . Thus, the storie index rating for soil map unit 115 is 61.5.

\*\*\* Slight rounding difference in GIS information resulting in 130.8 acres vs. 129.45 as stated in Project Description.

### 3.2 SITE ASSESSMENT FACTORS

The LESA Model includes four Site Assessment factors that are separately rated: Project Size Rating, Water Resources Availability Rating, Surrounding Agricultural Land Rating, and Surrounding Protected Resource Land Rating.

#### Project Size Rating

The project size rating recognizes the role of farm size in determining the viability of commercial agricultural operations. Larger farming operations generally can provide greater flexibility in farm management and marketing decisions. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon supporting industries and food processing industries (California Department of Conservation, 1997).

With regard to agricultural productivity, the size of the 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 greater economic return per acre unit. For a given project, instead of relying on a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the LCC 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 achieve a maximum Project Size score. **Table 3** summarizes the Project Size score for the proposed Project.

**TABLE 3  
PROJECT SIZE SCORE**

| Map Symbol - Soil   | Acres | LCC    | LCC Class I or II | LCC Class III | LCC Class IV-VIII |
|---|-------|--------|-------------------|---------------|-------------------|
| 110 Holtville silty clay, wet                                     | 45.9  | IIw-5  | 45.9              | --            | --                |
| 115 Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes | 84.9  | IIIw-6 | --                | 84.9          | --                |
|   | 130.8 | -      | 45.9              | 84.9          |                   |
| <b>PROJECT SIZE SCORES</b>  |       |        | <b>80</b>         | <b>80</b>     | <b>0</b>          |
| <b>HIGHEST SCORE</b>  |       |        | <b>80</b>         |               |                   |

*Source: DOC, 1997, page 13; Ericsson-Grant, Inc. 2016.  
Notes: See Table 1 for a description of the soil's LCC rating.*

**Water Resources Availability Rating**

The Water Resource Availability Rating is based on 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 drought and non-drought. The Project site is currently undeveloped, and has historically been used for agricultural purposes, such as growing alfalfa and Klein grass. The Project site is surrounded by Imperial Irrigation District (IID) irrigation infrastructure. IID infrastructure as well as dirt farm roads border the site. IID Delivery canal 86 extends north along the eastern border of the site; the Seeley Drain 1 borders the northern boundary of the site and the Elder Lateral 11 borders the southern boundary of the site. A dirt farm road extends along the western boundary of the site separating it from the adjacent agricultural parcel to the west.

The site receives water solely from the IID. IID sources its water from the Colorado River. No groundwater is currently used. Existing agricultural water uses are estimated at an average of 5.5 acre-feet per year (AF/Y) per net-irrigable acreage of agricultural land (IID 2013). Therefore, 5.5 AF/Y multiplied by 129.5 acres is equal to a historic yearly average water use of 709.5 AF/Y (Miki 2016). Compared to the 336 AF/Y demand associated with buildout of the Coyne Ranch Specific Plan, water usage would decrease by 344 AF/Y [Note: The Project proposes to connect to the Seeley County Water District (SCWD) water system via 16-inch PVC main to the north and connect at the south end of Holt Avenue near West Evan Hewes Highway. A 10-inch PVC main will run from the southwest portion of the project site and connect to the SCWD water system at the intersection of West Ross Road and Drew Road.]

The Project site received the highest Water Resource Availability Rating based on the availability of IID water that could be provided. The proposed Project has no physical restrictions (i.e. irrigation infrastructure is available surrounding the site) or economic restrictions (i.e. there are crops that can feasibly be cultivated with an economic return) that may alter water resource supply during either drought or non-drought years. **Table 4** summarizes the Water Resources Availability score.

**TABLE 4  
WATER RESOURCE AVAILABILITY**

| Project Portion                   | Water Source     | Proportion of Project Area | Water Availability Score | Weighted Availability Score |
|-----------------------------------|------------------|----------------------------|--------------------------|-----------------------------|
| 1                                 | Irrigation Water | 100%                       | 100                      | 100                         |
| <b>Total Water Resource Score</b> |                  |                            |                          | <b>100</b>                  |

Source: DOC 1997; Ericsson-Grant, Inc., 2016.

**Surrounding Agricultural Land Rating**

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands within the Zone of Influence (ZOI) of the project site. The "Zone of Influence" is the amount of surrounding lands up to a minimum of one-quarter mile from the Project site boundary. Parcels that are intersected by the quarter-mile buffer are included in their entirety. Based on the percentage of agricultural land in the ZOI, the Project site is assigned a "Surrounding Agricultural Land" score.

The 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 (DOC 1997). **Figure 2** depicts the distribution and amount of land used for agricultural uses within a quarter-mile of the proposed Project site. Adjacent properties are flat-lying and are approximately at the same elevation as the Project site. Fallow and active agricultural fields surround the Project site. The Surrounding Agricultural Land score for the proposed Project is provided in **Table 5**.

**TABLE 5  
SURROUNDING AGRICULTURAL LANDS**

| Total Acres within "Zone of Influence" | Acres in Agricultural Production | Acres of Protected Resource Land | Percent in Agriculture | Percent Protected Resources Land | Surrounding Agricultural Land Score | Surrounding Protected Resource Land Score |
|--|----------------------------------|----------------------------------|------------------------|----------------------------------|-------------------------------------|---|
| 1,066                                  | 867.97                           | 0                                | 81.4%                  | 0%                               | 90                                  | 0   |

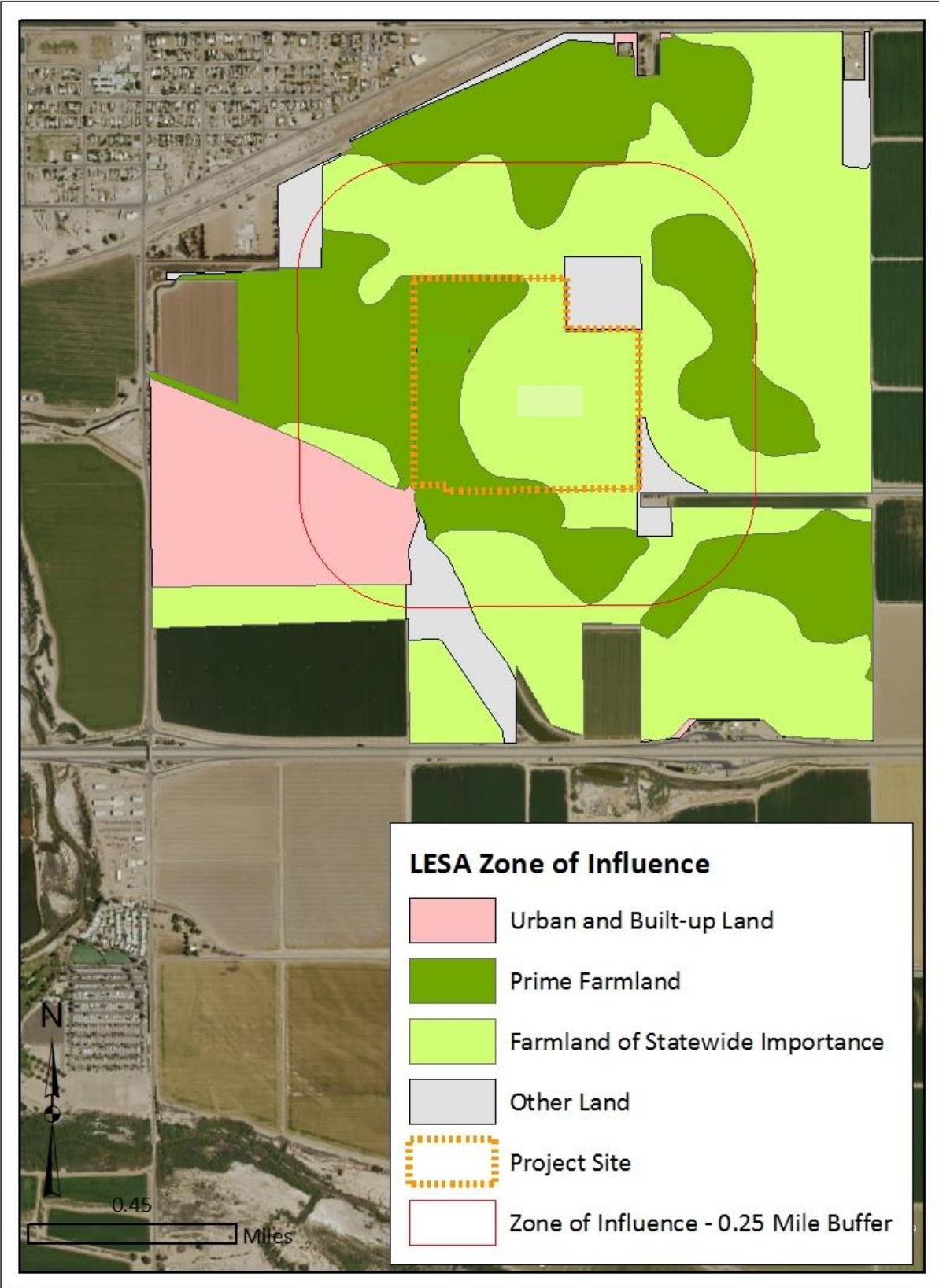
Source: EGI 2016.

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

None of the acreage located within the ZOI is protected resource lands. Because the percentage of protected land is less than 40%, the Surrounding Protected Resource Land Rating score is zero (DOC 1997, page 28).



Source: County of Imperial - Planning and Development Services County of Imperial, California (2013), Department of Conservation - Division of Land Resource Protection, Farmland Mapping and Monitoring Program (2015), ESRI – ArcMAP Service (2016).

**FIGURE 2 – ZONE OF INFLUENCE MAP**

## 4.0 SUMMARY

The LESA Model is weighted so that half of the total LESA score of a given project is derived from the Land Evaluation and half from the Site Assessment. As shown in **Table 6**, the Land Evaluation subscore is 30.67, while the Site Assessment subscore is 40.50. The final LESA score is 71.17.

**TABLE 6  
FINAL LESA SCORE SHEET SUMMARY**

|  | Factor Rating<br>(0 – 100<br>Points) | Factor Weighting<br>(Total = 100) | Weighted<br>Factor<br>Rating <sup>1</sup> |
|--|--------------------------------------|-----------------------------------|---|
| <b>Land Evaluation (LE)</b>                    |                                      |                                   |   |
| 1. Land Capability Classification (LCC Rating) | 67.0                                 | 0.25                              | 16.75                                     |
| 2. Storie Index Rating                         | 55.7                                 | 0.25                              | 13.92                                     |
| <i>Land Evaluation Subscore</i>                |                                      |                                   | 30.67                                     |
| <b>Site Assessment (SA)</b>                    |                                      |                                   |   |
| 1. Project Size Rating                         | 80                                   | 0.15                              | 12.00                                     |
| 2. Water Resource Availability Rating          | 100                                  | 0.15                              | 15.00                                     |
| 3. Surrounding Agricultural Land Rating        | 90                                   | 0.15                              | 13.50                                     |
| 4. Surrounding Protected Resource Lands Rating | 0                                    | 0.05                              | 0.00                                      |
| <i>Site Assessment Subscore</i>                |                                      |                                   | 40.50                                     |
| <b>TOTAL</b>                                   |                                      |                                   | <b>71.17</b>                              |

Source: DOC 1997, page 31 ; Ericsson-Grant, Inc., 2016.

Notes: <sup>1</sup>Weighted Factor Rating calculated by multiplying Factoring Rating Points X Factory Weighting

As shown in **Table 7**, the total LESA points are between 60 and 79 points, and both the LE and SA subscore are more than 20 points. Therefore, the LESA score is considered significant.

**TABLE 7  
CALIFORNIA LESA MODEL SCORING THRESHOLD**

| Total LESA<br>Score | Scoring Decision   |
|---------------------|--|
| 0 to 39             | Not considered significant   |
| 40 to 59            | Considered significant <u>only</u> . If Land Evaluation and Site Assessment subscores are greater than or equal to 20 points |
| 60 to 79            | Considered significant <u>unless</u> either Land Evaluation or Site Assessment subscore is <u>less</u> than 20 points        |
| 80 to 100           | Considered significant   |

Source: DOC 1997.

The results of this LESA Model will be used in the analysis of Agricultural Resources in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Per Public Resources Code Section 21095, the LESA Model 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”. Accordingly, the CEQA document prepared for the Coyne Ranch Specific Plan will include mitigation measures to address significant impacts on agricultural resources as identified by the LESA Model.

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## References

California Department of Conservation, 1997. *California Agricultural Land Evaluation and Site Assessment (LESA) Model, Instruction Manual*. Prepared by the California Department of Conservation, Office of Land Conservation, 1997. Referenced in text as (DOC 1997).

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