

APPENDIX B
LAND EVALUATION AND SITE ASSESSMENT

Draft

Technical Memorandum

Date: February 2, 2021
To: Scott Schwartz, Solar Development Manager, RWE Solar Development, LLC
From: Jessica Taylor, Soil Conservationist/Ecologist, Tetra Tech, Inc.
Subject: Land Evaluation and Site Assessment for the Janus Solar Project, Colusa County, California

1.0 Introduction

Janus Solar PV, LLC, a subsidiary of RWE Solar Development, LLC, seeks to develop the Janus Solar Project (Janus Solar or Project), a photovoltaic solar electrical generating facility, in Colusa County, California. Janus Solar will generate 80 megawatts of renewable energy and will include up to 80 megawatts of battery energy storage. The Janus Solar Site is located on private property currently used for grazing. The Project Site includes three parcels with Assessor Parcel Numbers 018-050-005-000, 018-050-006-000, and 018-050-013-000, which are 630.5, 255.7, and 137.7 acres in size, respectively, for a total area of approximately 1,024 acres, as shown on Figure 1.

This technical memorandum provides the results of the Land Evaluation and Site Assessment (LESA) Model for the Janus Solar Project. The analysis concludes that the conversion of 1,024 acres of agricultural land for solar energy generation by the Project **will not result in a significant loss of farmland and will not have a significant impact on agricultural land use.**

2.0 Land Evaluation and Site Assessment Model

The LESA Model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA Model was first developed by the federal Natural Resource Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agricultural lands in California (Public Resources Code Section 21095). The formulation of the LESA Model is intended to provide lead agencies under the California Environmental Quality Act with a methodology to ensure that agricultural land conversions are quantitatively and consistently considered in the environmental review process. CEQA Guidelines Appendix G indicates that lead agencies may refer to the LESA model “in determining whether impacts to agricultural resources are significant environmental effects.”

The following sections align with the LESA Model worksheets published by the NRCS. Each section is built on the information in the previous section and results in a final score that is the basis for the final determination. The scores for each section are derived from the tables within the LESA manual.

Land Capability Classification and Storie Index Scores

The Land Capability Classification (LCC) indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating. Subclasses designated with a lower-case letter (identified as e, w, s, or c) are typically used in conjunction with the roman numerals to further describe soil limitations. The letter “e” indicates that the main limitation of the soil is erosion; “w” indicates that the presence of water either within or on the soil causes limitation in plant growth; “s” indicates that the soil is shallow, droughty, or stony; and “c” indicates that the limitation is a climate that is generally too cold or hot for many plants. The LCC has separate scales used independently for irrigated and non-irrigated lands.

The NRCS supplied 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 use. The rating is based only on soil characteristics, such as depth, texture of the surface soil, density of the subsoil, drainage, salts and alkalinity, and relief. Other factors, such as availability of water for irrigation and climate are not considered in the Storie Index.

Table 1. Land Capability Classification and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit ¹	Project Acres	Proportion of Project Area	LCC ¹ (irrigated)	LCC Rating ² (irrigated)	LCC Score (C x E)	Storie Index ¹	Storie Index Score (C x G)
102	410.5	0.40	IIs	80	32.1	2	0.8
200	6.5	0.01	IIIw	60	0.4	4	0.0
210	30.6	0.03	I	100	3.0	1	0.0
212	47.3	0.05	IIIe	70	3.2	3	0.1
213	277.3	0.27	IVe	50	13.5	4	1.1
230	251.9	0.25	IIIe	70	17.2	1	0.2
Totals	1024.1	1		LCC Total Score	69.4	Storie Index Total Score	2.3
¹ The Soil Map Unit information and acreage, LCC and Storie Index information were determined from the current soil survey information available at the U.S. Department of Agriculture Natural Resources Conservation Service website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx .							
² The LCC Rating for irrigated land was determined from the LCC Point Rating Table 2 from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).							

Project Size Scores

The Project Size rating recognizes 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. Larger operations tend to have greater impacts upon the local economy through direct employment. In terms of 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 diversity in crop selection and the potential for greater economic return per acre unit. The Project Size rating is determined by summing the acres in a project that fall within one of three consolidated LCC categories.

Under the Project Size Score rating (Table 2), relatively fewer acres of high-quality soils are required to achieve a maximum Project Size Score.

Table 2. Project Size Scores

	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Total Acres	441.1	305.7	277.3
Project Size Scores ¹	100	100	80
Highest Project Size Score	100		

¹ Project Size Score was determined from the Project Size Scoring Table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

Water Resources Availability

The Water Resources Availability rating for the Project is based upon identifying the various sources that may supply the Project area, 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. Table 3 summarizes the limited water availability in the Project area.

The Water Resources Availability Score is scored on a scale of 1–100.

Table 3. Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score ¹	Weighted Availability Score (C x D)
All	None	1	20	20
Total Water Resource Score				20

¹ Water Resources Availability Score was determined from the scoring table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

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 of the Project area. 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.

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 including: publicly owned lands maintained as park, forest, or watershed resources; Williamson Act contracted lands; and lands with natural resource easements that restrict the conversion of such land to urban or industrial uses.

The Zone of Influence is the amount of surrounding lands up to a minimum of one-quarter mile from the project boundary. Table 4 summarizes the findings for the Project.

Table 4. Surrounding Agricultural Land Rating

A	B	C	D	E	F	G
Zone of Influence					Surrounding Agricultural Land Score ²	Surrounding Protected Resource Land Score ²
Total Acres	Acres in Agriculture ¹	Acres of Protected Resource Land ¹	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)		
1479.90	1479.9	1479.9	100%	100%	100	100
¹ Acres and Protected Resource designation were determined based on data from Colusa County Parcels Map (County of Colusa 2021). ² Score was determined from the scoring table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).						

Final LESA Score Sheet

The 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. Table 5 summarizes the Final LESA Score.

Table 5. Final LESA Score Sheet

	Factor Scores	Factor Weight	Weighted Factor Scores
Land Evaluation Factors			
Land Capability Classification	69.43	0.25	17.36
Storie Index	2.32	0.25	0.58
<i>Land Evaluation Subtotal</i>		0.5	17.94
Site Assessment Factors			
Project Size	100	0.15	15.00
Water Resource Availability	20	0.15	3.00
Surrounding Agricultural Land	100	0.15	15.00
Protected Resource Land	100	0.05	5.00
<i>Site Assessment Total</i>		0.5	38.00
Final LESA Score			55.94

3.0 Final Result

According to the California Agricultural LESA Model Instruction Manual, a final LESA score ranging from 40–59 points is considered significant only if both the land evaluation and site assessment weighted factor subscores are each greater than 20 points (CDC 1997). The final LESA score for the Project is 55.94, and the land evaluation score is below 20 points; such that the Project will not have a significant impact on agricultural land use on the Project site or Zone of Influence (Tables 5 and 6).

Table 6. LESA Model Significance Determination

Total LESA Score	Scoring Decision
0–39 Points	Not considered significant
40–59 Points	Considered significant <i>only</i> if both the Land Evaluation and Site Assessment (found in Table E from the California Agricultural Land Evaluation and Site Assessment Instruction Manual [CDC 1997]) weighted factor subscores are each <i>greater</i> than or equal to 20 points.
60–70 Points	Considered significant <i>unless</i> either of the Land Evaluation and Site Assessment weighted factor subscores is <i>less</i> than 20 points.
80–100 Points	Considered significant

4.0 References

California Department of Conservation (CDC). 1997. *California Agricultural Land Evaluation and Site Assessment Instruction Manual*. Available online at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx. Accessed April 2020.

County of Colusa. 2021. Parcels Map. Available online at: <https://colusacountydpw.maps.arcgis.com/apps/webappviewer/index.html?id=ba6fd932ef964ce7b9f17e6fd2f6f2>. Accessed January 2021.

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