LESA ASSESSMENT
LYONS SOLAR FARM

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(S/2 Section 3 (portion), T17S, R13E, SBB&M)

IMPERIAL COUNTY, CALIFORNIA

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Prepared for:

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LAND EVALUATION AND SITE ASSESSMENT MODEL

LYONS SOLAR FARM
(S/2 Section 3 (portion), T17S, R13E, SBB&M)
IMPERIAL COUNTY, CALIFORNIA

The Land Evaluation and Site Assessment (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 Resources 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 agriculture lands in California. The formulation of the California LESA Model is intended to provide lead agencies under the California Environmental Quality Act (CEQA) 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.

For determining the potential CEQA significance resulting from the conversion of agricultural lands to some other purpose, the California Agricultural LESA Model has developed Scoring Thresholds which are used to compare the Final LESA Score and the Weighted Factor Scores for the Project with suggested Scoring Decisions. These LESA Scores do not take into consideration any proposed mitigation measures or other factors that might affect a lead agency's determination of the significance of the agricultural lands conversion impact under CEQA.

The information provided on the following pages present documentation of the LESA assessment prepared using the California Agricultural LESA Model for the Lyons Solar Farm. The proposed Lyons Solar Farm would be located about eight miles west of the city of Calexico, California, on approximately 138 acres of privately owned land on APN 052-180-053-000 and APN 052-180-058-000 (Figure 1 and Figure 2). APN 052-180-053-000 and APN 052-180-058-000 are bounded on the north by the Imperial Irrigation District (IID) Wistaria Lateral 5 ; and bounded on the south by the IID Wistaria Lateral 4 and Kubler Road.

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Figure 2: Lyons Solar Farm on an Aerial Photographic Base

Land Evaluation Worksheet							
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Soil Map Unit*	**Project Acres**	**Proportion of Project Area**	**LCC** (irrigated)**	**LCC Rating (irrigated)*****	**LCC Score (C x E)**	**Storie Index****	**Storie Index Score (C x G)**
114	105.5	0.7620	IIIw	60	45.72	42	32.00
115	32.9	0.2380	IIIw	60	14.28	72	17.14
Totals	138.4	1.00		**LCC Total Score**	60	**Storie Index Total Score**	49
Total Project Area (acres)=	138.4						
* The Soil Map Unit information and acreage were determined from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Figure 3).							
** The Land Capability Classification and Storie Index information was obtained from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Appendix A).							
*** The LCC Rating for irrigated land was determined from the LCC Point Rating Table 2 from the LESA Instruction Manual (California Department of Conservation 1997).							

Table 1: Land Capability Classification (LCC) – Storie Index Rating

Tables — California Revised Storie Index (CA) — Summary By Map Unit

Summary by Map Unit — Imperial County, California, Imperial Valley Area (CA683)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
114	IMPERIAL SILTY CLAY, WET	Grade Three - Fair	Imperial, WET (85%)	105.4	76.2%
			Holtville (4%)		
115	IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES	Grade Two - Good	Imperial, WET (40%)	33.0	23.8%
			Glenbar, WET (40%)		
Totals for Area of Interest				**138.4**	**100.0%**

Figure 3 **: Lyons Solar Farm Soils Map**

	Site Assessment Worksheet 1		
	Project Size Score*		
	I	J	K
	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Project Acres per LCC Class		105.5	
Project Acres per LCC Class		32.94	
Project Acres per LCC Class			
Total Project Acres per LCC Class	0	138	0
**** Project Size Scores***	0	90	0
Highest Project Size Score	**90**		
* Project Size Score was determined from the Project Size Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).			

Table 2: Project Size Rating

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	Irrigation District Only	1.0	100	100
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	100
* The Water Availability Score was determined using the Water Resources Availability Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).				

Table 3: Water Resources Availabilty Rating

Site Assessment Worksheet 3						
Surrounding Agricultural Land & Surrounding Protected Resource Land						
A	B	C	D	E	F	G
Zone of Influence*					Surrounding Agricultural Land Score (From LESA Manual Table 6)	Surrounding Protected Resource Land Score (From LESA Manual Table 7)**
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)		
1027.9	866	0	84.2	0.0	90	0

* In conformance with the instructions in the LESA Instruction Manual (California Department of Conservation 1997), the Zone of Influence was determined by drawing the smallest rectangle that could completely encompass the entire Project Area. A second rectangle was then drawn which extended one quarter mile on all sides beyond the first rectangle. The Zone of Influence is represented by the entire area of all parcels with any lands inside the outer rectangle, less the area of the proposed project (Figure 4).

** The LESA Instruction Manual (California Department of Conservation 1997) describes *Protected Resource Land* as 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; 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.

Surrounding Parcels***	Acres	Protected Resource Land?	Percent Protected Resource Land	Acres in Protected Land	Agricultural Land?	Percent Agricultural Land	Acres of Agriculture
052-170-034	93.8	N	0	0	Y	100	93.8
052-180-001	36.6	N	0	0	Y	100	36.6
052-180-002	40.4	N	0	0	Y	70	28.3
052-180-004	0.6	N	0	0	N	0	0.0
052-180-005	0.6	N	0	0	N	0	0.0
052-180-011	115.3	N	0	0	Y	100	115.3
052-180-012	153.6	N	0	0	Y	100	153.6
052-180-046	437.0	N	0	0	Y	80	349.6
052-180-052	16.4	N	0	0	N	0	0.0
052-180-056	16.8	N	0	0	N	0	0.0
052-180-059	68.1	N	0	0	Y	100	68.1
052-180-060	0.4	N	0	0	N	0	0.0
052-180-061	3.5	N	0	0	N	0	0.0
052-180-062	2.0	N	0	0	N	0	0.0
052-180-063	4.6	N	0	0	N	0	0.0
052-180-066	17.0	N	0	0	Y	100	17.0
052-180-067	19.2	N	0	0	Y	18	3.5
052-180-068	1.4	N	0	0	N	0	0.0
052-180-069	0.6	N	0	0	N	0	0.0
Total	**1027.9**		**Total**	**0**		**Total**	**866**

**The Imperial County Assessors website was accessed to identify the surrounding parcel numbers (http://imperialcounty.net/Assessor/index.html). The percentage of agriculture was determined from a map overlay used to estimate the proportion of land in agriculture and the California Department of Conservation Important Farmland Map Series.

Table 4: Surrounding Agricultural & Protected Resource Land Rating

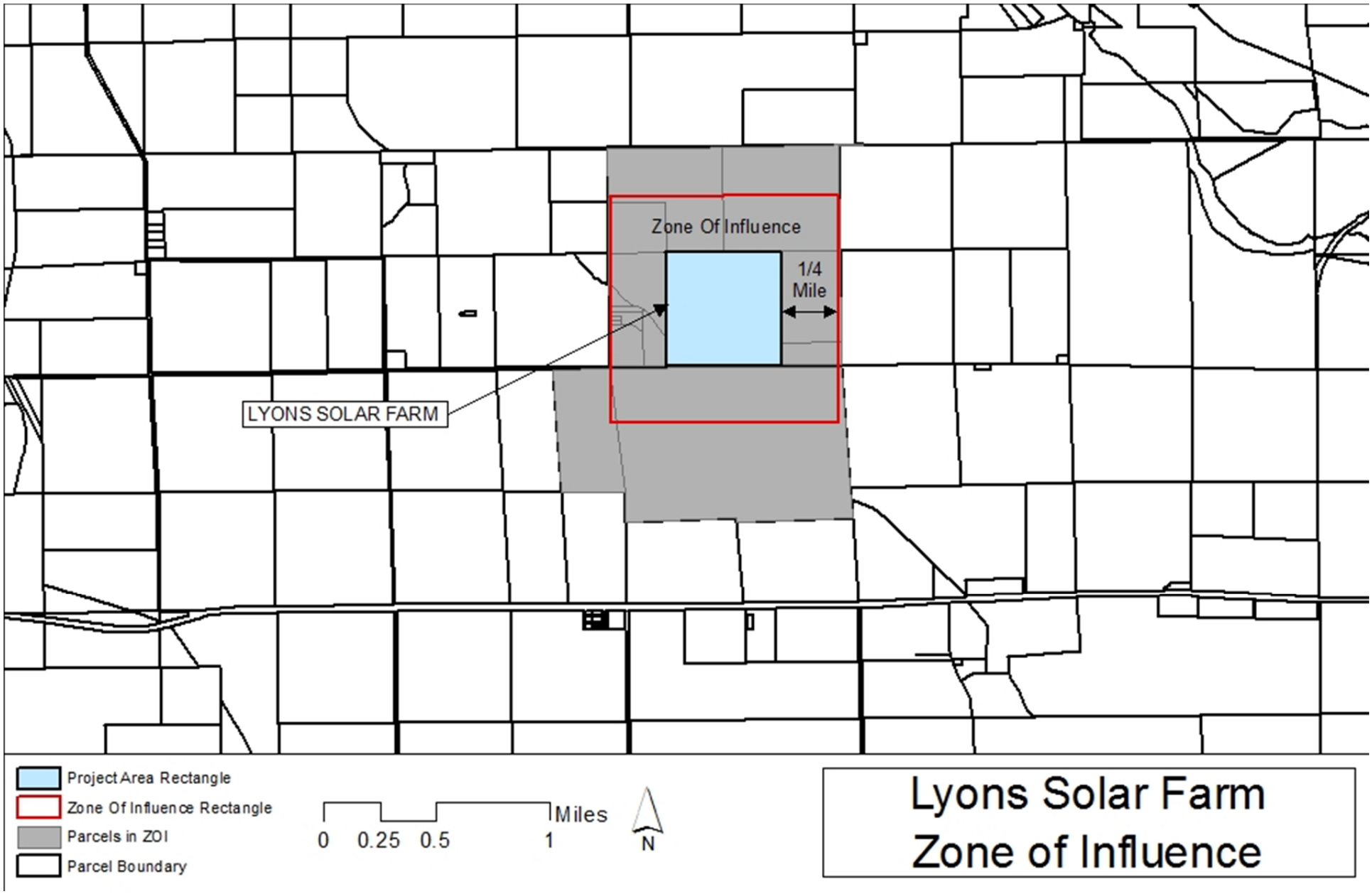

Figure 4**: Zone of Influence Map**

Final LESA Score Sheet			
	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	60.00	0.25	15.00
Storie Index	49.14	0.25	12.29
LE subtotal		0.50	27.29
SA Factors			
Project Size	90	0.15	13.50
Water Resource Availability	100	0.15	15.00
Surrounding Agricultural Land	90	0.15	13.50
Protected Resource Land	0	0.05	0.00
SA Subtotal		0.50	42.00
		Total LESA Score	**69.29**

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

Table 5: Final LESA Score

APPENDIX A: LYONS SOLAR FARM SOILS DETAILS

Imperial County, California, Imperial Valley Area

114—IMPERIAL SILTY CLAY, WET

Map Unit Setting

Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Imperial, wet, and similar soils: 85 percent
Minor components: 15 percent

Description of Imperial, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed sources and/or clayey lacustrine deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 7w
Hydrologic Soil Group: C

Typical profile

0 to 12 inches: Silty clay
12 to 60 inches: Silty clay loam

Minor Components

Glenbar

Percent of map unit: 4 percent

Meloland
Percent of map unit: 4 percent

Holtville
Percent of map unit: 4 percent

Niland
Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

115—IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES

Map Unit Setting

Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Glenbar, wet, and similar soils: 40 percent
Imperial, wet, and similar soils: 40 percent
Minor components: 20 percent

Description of Imperial, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed sources and/or clayey lacustrine deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water capacity: Moderate (about 8.6 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 7w
Hydrologic Soil Group: C

Typical profile

0 to 12 inches: Silty clay loam
12 to 60 inches: Silty clay loam

Description of Glenbar, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water capacity: High (about 10.8 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 7w
Hydrologic Soil Group: B

Typical profile

0 to 13 inches: Silty clay loam
13 to 60 inches: Clay loam

Minor Components

Holtville

Percent of map unit: 10 percent

Meloland

Percent of map unit: 10 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index asseses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 percent is determined for each factor, and the scores are mukltiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 100 to 80; grade 2 (good), 79 to 60; grade 3 (fair), 59 to 40; grade 4 (poor), 39 to 20; grade 5 (very poor), 19 to 10; and grade 6 (nonagricultural), less than 10.

Report—California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil map unit component's potential for cultivated agriculture. [Absence of an entry indicates that a Storie Index rating is not applicable or was not estimated]. For simplification, Storie Index ratings have been combined into six grades as follows: Grade 1 (Excellent): Soils that rate between 80 and 100 and which are suitable for a wide range of crops. Grade 2 (Good) Soils that rate between 60 and 79 and which are suitable for a wide range of crops. Grade 3 (Fair): Soils that range between 40 and 59. Soils in this grade may give good results with certain specialized crops. Grade 4 (Poor): Soils that rate between 20 and 39 and which have a narrow range in their agricultural potential. Grade 5 (Very Poor): Soil that rate between 10 and 19 and are of very limited agricultural use except for pasture because of adverse soil conditions. Grade 6 (Nonagricultural): Soils that rate less than 10. [The numbers in the "Limiting feature value" column range from 0.01 to 1.00. Soils with a smaller the value have a lower potential for cultivated agriculture. The table shows each of the sub-factors used to generate the Storie Index rating for each soil component].

California Revised Storie Index Rating (CA)– Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
114—IMPERIAL SILTY CLAY, WET				
Imperial, wet	85	42	Grade Three - Fair	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			Wetness, flooding, ponding, drainage, erosion	0.90
			Toxicity	0.80

California Revised Storie Index Rating (CA)– Imperial County, California, Imperial Valley Area				
Map symbol and soil name	**Pct. of map unit**	**California Revised Storie Index (CA)**		
		Storie index rating	**Storie index grade and limiting features**	**Limiting feature value**
115—IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES				
Glenbar, wet	40	72	Grade Two - Good	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			USDA Texture	0.95
			Wetness, flooding, ponding, drainage, erosion	0.90
Imperial, wet	40	67	Grade Two - Good	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			USDA Texture	0.95
			Wetness, flooding, ponding, drainage, erosion	0.90

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008