SECTION 4.1
AESTHETICS

This section defines terms used to assess visual quality and describes the existing visual resources in the vicinity of the project site that could potentially be affected by the construction and operation of the solar generation facility and gen-tie. This section also examines the potential for the proposed project to degrade the existing visual character or quality of the site and its surroundings through changes in the existing landscape. Key Observation Points are identified from which the project is analyzed. Potential effects are evaluated using photo simulations.

DEFINITIONS AND TERMINOLOGY

The following definitions of key terms are provided to describe and assess potential visual impacts.

- **Key Observation Point**. A point along a travel route or an area where the view of the proposed project would be visible.
- **Scenic Vista.** An area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing as designated by a federal, state, or local agency.
- **Scenic Highway.** A section of public roadway that is designated as a scenic corridor by a federal, state, or local agency.
- **Sensitive Viewpoints.** Views from a public park, recreational trails, and/or culturally important sites are considered to have a high visual sensitivity and are considered examples of sensitive viewpoints.
- **Sensitive Receptors.** Areas subject to high visibility by a large number of people are considered to be sensitive receptors. Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity.
- **Viewshed.** The landscape that can be viewed free of obstruction under favorable atmospheric conditions from a viewpoint or along a transportation corridor.

4.1.1 REGULATORY FRAMEWORK

A. FEDERAL

Bureau of Land Management

In 1976, Congress designated 25 million acres of land in Southern California as the California Desert Conservation Area (CDCA) through the Federal Land Policy and Management Act. The Bureau of Land Management (BLM) oversees approximately 10 million acres of the CDCA (BLM, 1980). All of the public lands in the CDCA managed by the BLM (with the exception of a few small and scattered parcels), are designated into four multiple-use classes.

The portion of the gen-tie line on BLM land is located entirely within the Yuha Basin Area of Critical Environmental Concern (ACEC) of the CDCA Plan. More specifically, the gen-tie is located within a Multiple-Use Class L (Limited Use) designated area within the CDCA. The Multiple-Use Class L (Limited Use) designation protects sensitive, natural, scenic, ecological, and cultural resource values. Multiple-Use Class L are managed to provide for generally lower-intensity, controlled multiple use of resources to protect sensitive values (BLM, 1980). Approximately 0.9 miles of the proposed gen-tie extends through BLM land designated ACEC.

B. STATE

Southern California Association of Governments

The Southern California Association of Governments (SCAG) Intergovernmental Review (IGR) section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG's adopted regional plans and policies. The IGR section does not include any policies that address aesthetics, light or glare. Therefore, there are no policies that relate to the analysis of visual resources and the project cannot be analyzed for consistency with SCAG's IGR section.

C. LOCAL

Imperial County General Plan

Two elements of the Imperial County General Plan discuss issues relevant to the analysis of visual resources. These include the Circulation and Scenic Highways Element and the Conservation and Open Space Element.

Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element of the Imperial County General Plan (Imperial County, revised 2008) identifies the transportation needs of the County and the various modes available to meet these needs. In addition, the Element provides a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors. There are no designated scenic highways in the area surrounding the project nor is the project site visible from any designated scenic highway.

Conservation and Open Space Element

The Conservation and Open Space Element of the Imperial County General Plan identifies plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space.

Table 4.1-1 analyzes the consistency of the proposed project with the applicable policies relating to visual resources from the Imperial County General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Conservation And Open Space Policies		
Preservation of Visual Resources		
Goal 7: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	No	The project would change the visual character of the project site from an active agricultural setting with cultivated crops to a solar generation facility with panels and associated structures and electrical lines. The proposed project and gen-tie would not protect or enhance the aesthetic character of the region, and would not be consistent with Goal 7. Potential visual and aesthetic impacts associated with the project and gen-tie are evaluated in detail in this Visual Resources analysis. Mitigation (MM 4.2.1) is provided to address potential visual impacts to surrounding uses.
Objective 7.1 Encourage the preservation and enhancement of the natural beauty of the desert and mountain landscape.	No	Approximately 0.9 miles of the proposed gen-tie would be on lands managed by the BLM comprised of desert landscape. The gen-tie is proposed in BLM-designated Utility Corridor N. This corridor currently includes several transmission lines as well as the Imperial Valley Substation. While the proposed gen-tie line and supporting structures would be visible, the existing lines and associated supporting structures are already visible in the same views of the desert and mountains. While the proposed gen-tie portion of the project would not be consistent with Objective 7.1, it also would not significantly alter the existing views of the desert and mountains. Instead, it would add to existing infrastructure allowed within Utility Corridor N. Mitigation (MM 4.2.1) is provided to address potential visual impacts of the solar generation facility to surrounding uses.

TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Land Use Element		
Regional Vision		
Objective 3.4 Protect/improve the aesthetics of Imperial County and its communities.	No	The proposed project is located in a rural portion of Imperial County. The site is currently used for agricultural purposes and does not contain any designated scenic features. Based on the rural nature of the area, the proposed project and gen-tie would not obstruct views or degrade scenic vistas. Neither would the project protect or improve the aesthetics of the County. Therefore, the proposed project and gen-tie would not be consistent with Objective 3.4.
Objective 3.6 Recognize and coordinate planning activities as applicable with the BLM, and the California Desert Conservation Plan.	Yes	The Applicant has coordinated with the County and BLM regarding the proposed project and gen-tie. The proposed project would not negatively impact the BLM area that surrounds the site and be consistent with the CDCA Plan because the segment of the proposed Gen-Tie on BLM land is entirely within Utility Corridor N. Therefore, the proposed project and gen-tie would be consistent with Objective 3.6.

4.1.2 ENVIRONMENTAL SETTING

The visual setting includes private lands under the jurisdiction of Imperial County (solar generation facility site) as well as lands managed by the BLM to the south and west of the solar generation facility site (segment of proposed gen-tie connecting to the Imperial Valley Substation).

A. REGIONAL

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand hills, mountain ranges, and the Salton Sea.

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County.

B. SURROUNDING AREA

The site is generally bound on the north by Interstate 8 (I-8), on the east by Drew Road (County Highway 29), and on the south and west by the Westside Main Canal. Desert lands managed by the BLM are to the south and west of the Westside Main Canal. I-8 is a four-lane divided freeway with two-lanes in each direction that aligns through the area in an east-west direction. Two-lane paved roads and dirt roads are located adjacent to and throughout the project area providing access to and through the existing agricultural fields.

The area is predominantly flat as most of the land has been leveled to facilitate irrigation. Elevations across the solar generation facility site range from approximately 24 to 40 feet below mean sea level (URS, 2011, p. 3-1). Numerous canals, ditches and drains owned by the Imperial Irrigation District (IID) are located throughout the project site and surrounding area providing irrigation water and drainage to the individual fields.

Earthen berms, overhead power and telephone lines, and agricultural fields dominate the scenery in the project area. One residence (1651 Westside Road), Westside Elementary School, a residential complex and undeveloped/agricultural land, are located on the north side of Vaughn Road. Undeveloped/agricultural land, the Westside Main Canal, and three residential complexes are to the south of the solar generation facility site. Undeveloped/agricultural land and Drew Road is adjacent to the site on the east side and separates the site from additional agricultural land and residences. Agricultural land is the dominant land type adjacent on the west side of the property. In addition, a residential complex (two buildings, a barn, and an apparent agricultural maintenance and storage area) is located on the west side of APN 051-300-30 (URS, 2011, p. 2-8 and 2-9).

BLM land to the south and west of the solar generation facility site is mostly managed as open desert. Views of desert from roadways are obstructed by intervening agricultural fields, trees and existing electrical transmission or distribution as well as phone lines. However, mountains are visible in the background from most vantage points along area roadways and from the agricultural fields.

The Imperial Valley Substation is located on BLM land south of the solar generation facility site. The substation and the numerous transmission lines are readily visible throughout this area and are located in Utility Corridor N. Utility corridors are identified in the Energy Production and Utilities Corridor Element of the CDCA to consolidate location of utilities.

Based on the undeveloped nature of the surrounding landscape, very little light is generated in this area of the County. The primary source of light and glare in the area is from motor vehicles traveling on surrounding roadways. Glare is generated during daytime hours from the sun's reflection off of cars and paved roadway surfaces. Likewise at night, vehicle headlights on surrounding roadways generate light and glare. Warning lighting is also located on the existing transmission lines to alert aircraft of potential flight path hazards.

C. PROJECT SITE

Solar Generation Facility Site

The solar generation facility site is on private land in the unincorporated area of Imperial County approximately 7 miles southwest of the City of El Centro. The solar generation facility site consists of approximately 1,990 acres of privately-owned land, currently used for agricultural production.

Like the surrounding area, the solar generation facility site is dominated by the agricultural fields, earthen berms associated with the irrigation and drainage systems, and overhead power and telephone lines. Drew Road is the major north-south arterial road in the area and borders the western limits of the solar generation facility site. Local roads (Derrick Road, Diehl Road, Hyde Road, Jessup Road, Vogel Road, Westside Road, and Wixom Road) provide access to the existing agricultural fields that comprise the solar generation facility site. No residences are located on the solar generation facility site. However, a few residences are located on parcels surrounding the project site.

Gen-Tie

The proposed gen-tie line would exit the project site at the southwestern corner of the solar generation facility site, cross the Westside Main Canal and extend approximately 0.9 miles through BLM land to interconnect to the Imperial Valley Substation. The proposed gen-tie route would parallel existing roads and berms. The gen-tie would align through BLM designated Utility Corridor N. The Imperial Valley Substation and existing transmission lines within the utility corridor are visible from parcels and roadways in this portion of the county.

Note: The segment of the gen-tie located on BLM land is undergoing separate environmental analysis under NEPA using the BLM's Visual Resource Management (VRM) System. However, visual impacts of the overall gen-tie (on private and BLM land) are acknowledged in this section.

D. VIEWSHED

Existing views of the solar generation facility site are available from the surrounding areas, specifically from I-8 and Drew Road (County Highway 29) as well as the other roads (Wixom Road, Vaughn Road) that cross the project area. Due to the flat topography of the project site and the surrounding area, the existing transmission lines and a large, regional electrical substation located within the Utility Corridor N are the only readily visible feature from many viewpoints. No other unique topographical features are associated with any portion of the project site (solar generation facility site on private lands or gen-tie on federal). The viewshed is depicted from Key Observation Points (KOPs) determined based on consultation with Imperial County staff and comments received as part of the NOP process and scoping meeting.

Key Observation Points

Figure 4.1-1 provides an aerial of the project site prior to project implementation and a visual simulation of the project site after implementation. This aerial view shows the overall extent of the visual change of the project site relative to surrounding properties.

To assess the visual impacts at ground-level, nine KOPs were identified that are representative of views of the proposed project site. **Figure 4.1-2** is a map showing the location of the KOPs. Existing views with visual simulations below are provided in **Figure 4.1-3** through **4.1-11A** and **4.1-11B**. The highest point of fixed tilt modules could be as high as approximately 7 feet above the ground surface while the overall height of a horizontal tracker is a maximum of 11 feet above the ground surface. Because horizontal

trackers would be the taller of the two options, they potentially represent a worst-case visual scenario. Therefore, to be conservative in assessing impacts, all visual simulations were modeled for horizontal trackers to represent the worst-case visual impacts. Viewpoints from KOP#2 and KOP#9 are especially close to the solar fields. Thus, fixed-tilt units were also modeled for these KOPS to show the difference between the two mounting options.

Descriptions of the KOPs are as follows:

KOP #1: View along I-8 (looking eastbound) adjacent to the northern extend of the solar generation facility site. KOP #1 represents the view of the proposed solar generation facility site that would be visible to travelers along I-8 (**Figure 4.1-3**).

KOP #2: View south from the grounds of the Westside Elementary toward the solar generation facility site. KOP#2 provides a view of the PV solar field south of the school with horizontal trackers (**Figure 4.1-4A**) as well as fixed-tilt trackers (**Figure 4.1-4A**).

KOP #3: View south-southwest slightly west of the intersection of Derrick Road and I-8. KOP#3 provides a distant view of the PV solar field from I-8 (**Figure 4.1-5**).

KOP#4: Located west of Drew Road at the southernmost point of the Rio Bend RV Development. KOP#4 provides a view of the proposed project site to the south-southwest from the area south of Rio Bend RV Development across New River (**Figure 4.1-6**).

KOP#5: View along southbound Drew Road at the northeast corner of the project site. KOP#5 provides a view to the southwest of the PV solar field visible from Drew Road, the major north-south arterial roadway in the project area (**Figure 4.1-7**).

KOP#6: View north along Drew Road south of the solar generation facility site. KOP#6 provides a view to the north-northwest of the PV solar field looking north from Drew Road, the major north-south arterial roadway in the project area (**Figure 4.1-8**).

KOP#7: View south from the southern edge of a residential property north of the intersection West Wixom Road and Liebert Road. KOP#7 provides a view to the south-southwest of the PV solar field, gen-tie tower structures and substation, switchyard and O&M building from the location of this residence. (**Figure 4.1-9**). These facilities are located on the southern-most parcel of the solar generation facility site.

KOP#8: Located at a residence along West Vaughn Road along the western boundary of the solar generation facility site. KOP#8 provides a view from this residence towards to PV solar field to the south (**Figure 4.1-10**).

KOP#9: Looking west from residence at 1280 Drew Road toward solar generation facility site. KOP#9 provides a view from this residence toward the PV solar field. **Figure 4.1-11A** shows the view with horizontal trackers and **Figure 4.1-11B** shows the view with fixed-tilt trackers.

4.1.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines, as listed in Appendix G. The project would result in a significant impact to visual resources if it would result in any of the following:

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion "b" was scoped out as part of the Initial Study because the proposed solar generation facility site and gen-tie are not located near any scenic vista or state scenic highway. No aspect of the project would damage or degrade any existing scenic resources. Thus, no impact is identified for this issue area and it is not discussed further in this report.

C. METHODOLOGY

In general, the potential aesthetic, light, and glare impacts associated with the solar generation facility site and Gen-tie segment on private land are evaluated on a qualitative basis. The evaluation of impacts are based on professional judgment, analysis of the Imperial County General Plan goals and policies related to visual resources and the significance criteria established by CEQA.

This assessment is based on the approved visual assessment practices employed by the BLM (1986), the U.S. Forest Service (1995), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting;
- Identifying sensitive viewpoints for assessment;
- Analyzing the baseline visual quality and character of the identified views;
- Depicting the visual appearance of the project from identified views;
- Assessing the project's impacts to those views in comparison to their baseline visual quality and character; and
- Proposing methods to mitigate any potentially significant visual impacts identified.

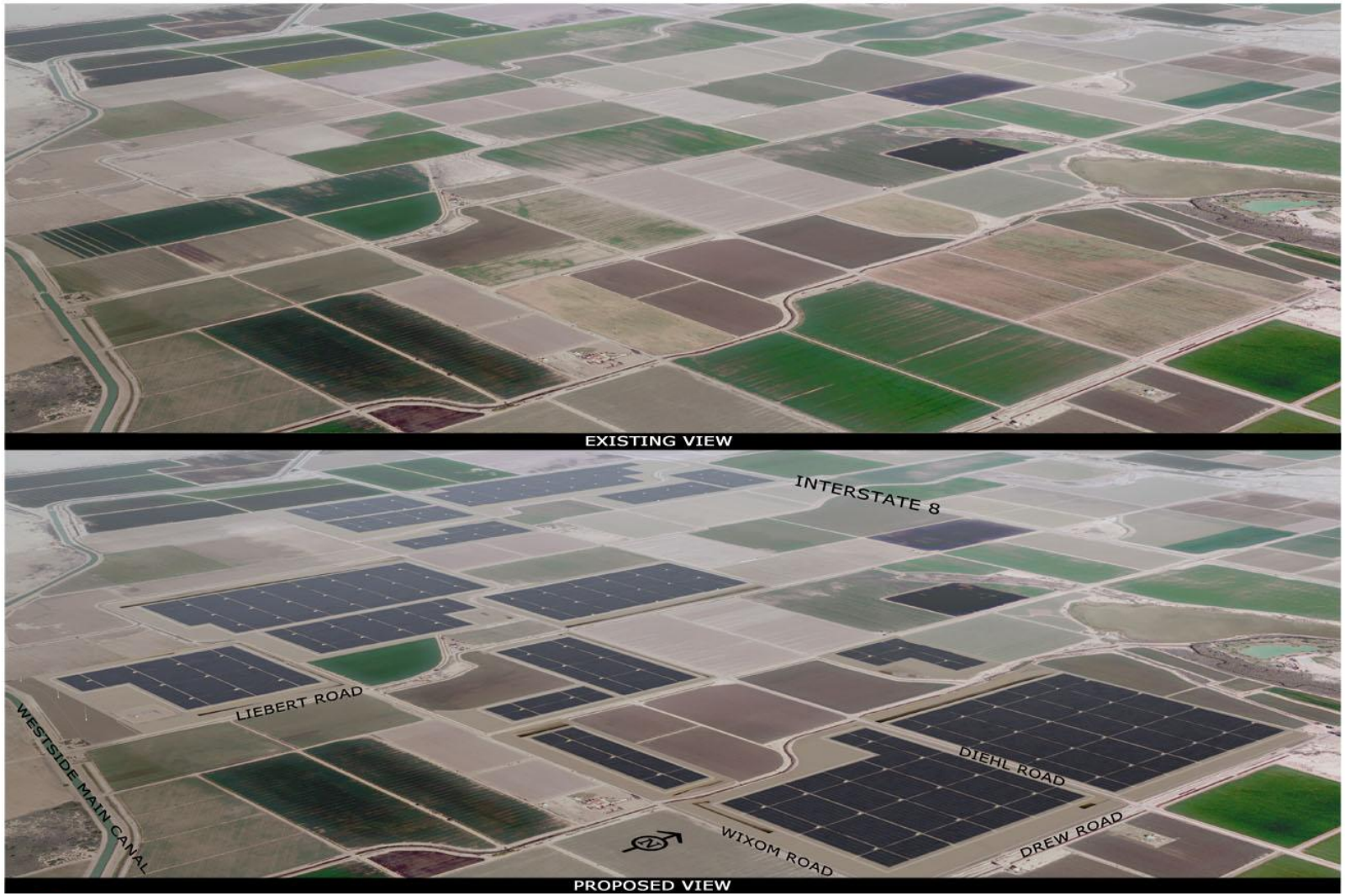
Visual Simulations

Visual simulations were prepared by Visual Environments for each KOP to model how existing views would change following implementation of the proposed project. The simulations were prepared by Visual Environmental. Existing views are shown in the top image of **Figures 4.1-3** through **4.1-11A** and **4.1-11B**. The visual simulation of the same view is depicted in the lower image.

"Visual quality" is a measure of a landscape or view's visual appeal and can be somewhat subjective based on the individual viewer's preferences. The "Scenic Quality Rating Criteria" used by the BLM was selected to rate scenic quality (BLM, 1986). This standardized method allows the various components of a landscape to be easily quantified and rated thereby eliminating a large degree of ambiguity or subjectivity.

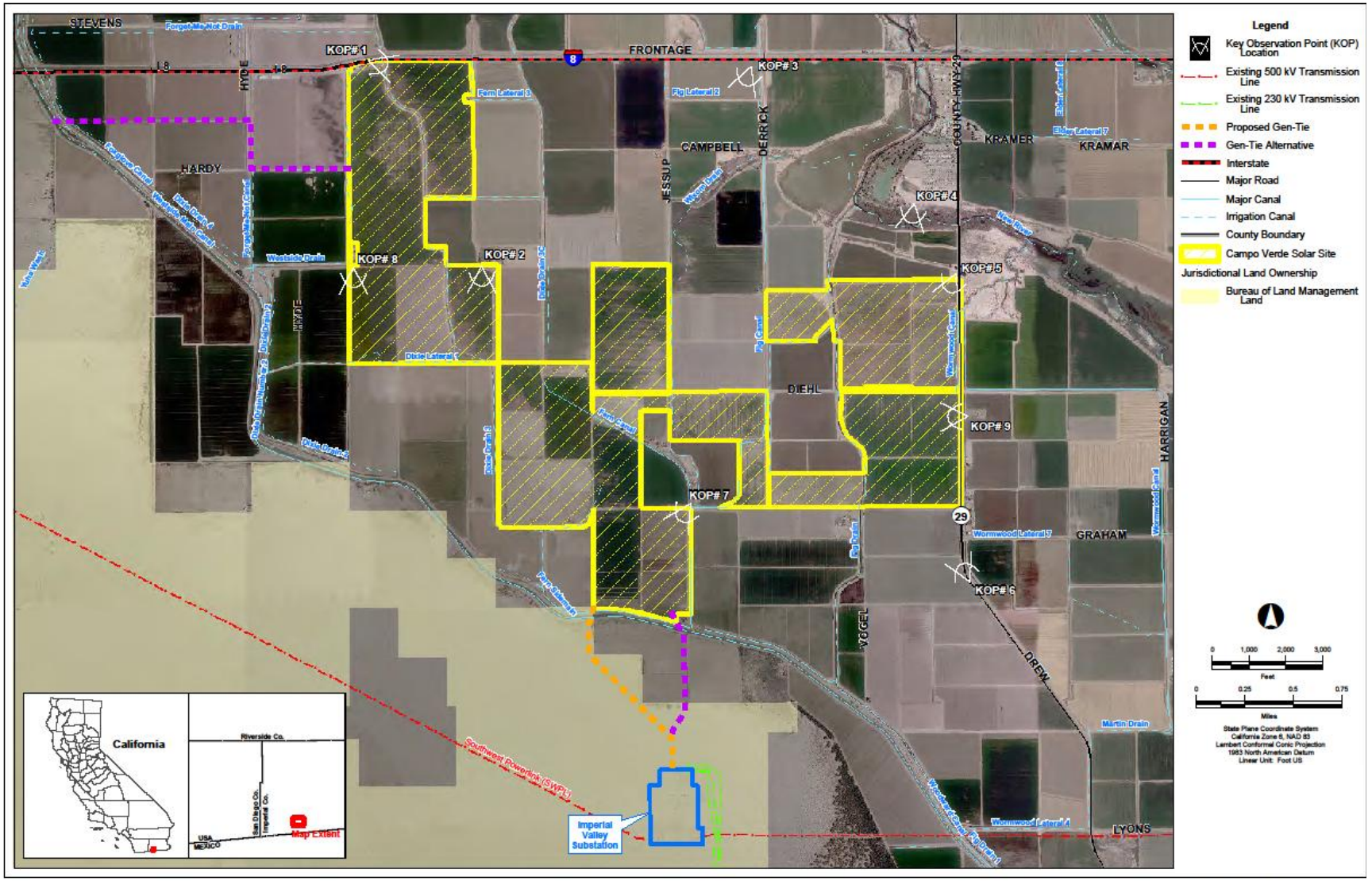
The Scenic Quality Rating Criteria uses seven components to rate visual quality of the landscape: landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications. Each is described briefly below:

- **Landform –** This component of the visual quality rating criteria takes into account the degree of topography in a landscape and acknowledges that topography becomes more



Source: Visual Environments, 2012.

FIGURE 4.1-1
AERIAL OF PROJECT SITE BEFORE AND AFTER PROJECT IMPLEMENTATION



Source: kp environmental, 2012.

FIGURE 4.1-2
KOP LOCATIONS

Source: Visual Environments, 2012.

FIGURE 4.1-3
KOP #1 – I-8 EASTBOUND LOOKING EAST-SOUTHEAST

Source: Visual Environments, 2012.

FIGURE 4.1-4A
KOP #2 – WESTSIDE ELEMENTARY SCHOOL LOOKING SOUTHWEST (HORIZONTAL TRACKER)

Source: Visual Environments, 2012.

FIGURE 4.1-4B
KOP #2 – WESTSIDE ELEMENTARY SCHOOL LOOKING SOUTHWEST (FIXED-TILT UNIT)

Source: Visual Environments, 2012.

FIGURE 4.1-5
KOP #3 – I-8 WESTBOUND LOOKING SOUTH-SOUTHWEST

Source: Visual Environments, 2012.

FIGURE 4.1-6
KOP #4 – RIO BEND RV DEVELOPMENT LOOKING SOUTH

Source: Visual Environments, 2012.

FIGURE 4.1-7
KOP #5 – DREW ROAD LOOKING SOUTHWEST

Source: Visual Environments, 2012.

FIGURE 4.1-8
KOP #6 – DREW ROAD NORTHBOUND

Source: Visual Environments, 2012.

FIGURE 4.1-9
KOP #7 – WEST WIXOM ROAD & LIEBERT ROAD LOOKING SOUTHWEST

Source: Visual Environments, 2012.

FIGURE 4.1-10
KOP #8 – WEST VAUGHN ROAD LOOKING SOUTH

Source: Visual Environments, 2012.

FIGURE 4.1-11A
KOP #9 – DREW ROAD LOOKING WEST (HORIZONTAL TRACKER)

Source: Visual Environments, 2012.

FIGURE 4.1-11B
KOP #9 – DREW ROAD LOOKING WEST (FIXED-TILT UNIT)

- visually interesting as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental, (as found in Yosemite Valley), or they may be exceedingly artistic and subtle (such as certain badlands, pinnacles, arches, and other extraordinary formations).

- **Vegetation -** This component of the rating criteria gives primary consideration to the variety of patterns, forms, and textures created by plant life. Short-lived displays are given consideration when recurring or exceptionally beautiful. Consideration is also given to smaller scale vegetation that add detail to the landscape (e.g., gnarled or wind-beaten trees, Joshua trees, etc.).

- **Water -** This component of the rating criteria recognizes that visual quality is largely associated with the presence of water as it adds movement or serenity to a landscape. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.

- **Color -** This component of the visual quality rating criteria considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.). Key factors that are used when rating the color of scenery are variety, contrast, and harmony.

- **Adjacent scenery -** This component of the rating criteria considers the degree to which scenery outside the view being rated enhances the overall impression of the scenery being evaluated. The distance of influence for adjacent scenery normally ranges from zero to five miles, depending upon the characteristics of the topography, the vegetation cover, and other such factors. This factor is generally applied to views that would normally rate very low in score, but the influence of the adjacent high visual quality serves to enhance the visual quality and raise the score.

- **Scarcity -** This component of the visual quality rating criteria provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within a region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often, it is a number of not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery. The scarcity factor can be used to recognize this type of area and provide the added emphasis that is lacking.

- **Cultural modifications -** This component of the visual quality rating criteria takes into account any manmade modifications to the landform, water, vegetation, and/or the addition of manmade structures. Depending on their character, these cultural modifications may detract from the scenery in the form of a negative intrusion or they may complement and improve the scenic quality of a view.

Based on the above criteria, views are rated numerically and a total score of visual quality can be tabulated. Based on the BLM's rating system, there are a total of 32 points possible (refer to Key Factors column in **Table 4.1-2**). Views that score a total of 19 points or more are typically considered to have "very high" visual quality. Views that score a total of 15 to 19 points are typically considered to have "high" visual quality. Views that score a total of 12 to 15 points are typically considered to have "above average" visual quality. And views that score a total of 11 points or less are typically considered to have "average" visual quality.

Table 4.1-2 provides a breakdown of the various elements with regard to the proposed solar generation facility. The point values associated with the various criteria are show at the bottom of each cell.

TABLE 4.1-2
VISUAL QUALITY RATING SYSTEM

Key Factors Maximum Total of 32	Rating Criteria and Score		
Landform (Maximum Total 5)	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. **Score: 0**	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. **Score: 0**	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features. **Score: 2**
Vegetation (Maximum Total 5)	A variety of vegetative types as expressed in interesting forms, textures, and patterns. **Score: 0**	Some variety of vegetation, but only one or two major types. **Score: 2**	Little or no variety or contrast in vegetation. **Score: 0**
Water (Maximum Total 5)	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. **Score: 0**	Flowing, or still, but not dominant in the landscape. **Score: 0**	Absent, or present but not noticeable. **Score: 1**
Color (Maximum Total 5)	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. **Score: 0**	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. **Score: 2**	Subtle color variations, contrast, or interest; generally mute tones. **Score: 0**
Influence of Adjacent Scenery (Maximum Total 5)	Adjacent scenery greatly enhances visual quality. **Score: 0**	Adjacent scenery moderately enhances overall visual quality. **Score: 1**	Adjacent scenery has little or no influence on overall visual quality. **Score: 0**

TABLE 4.1-2
VISUAL QUALITY RATING SYSTEM

Key Factors Maximum Total of 32	Rating Criteria and Score		
Scarcity (Maximum Total 5)	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. **Score: 0**	Distinctive, though somewhat similar to others within the region. **Score: 0**	Interesting within its setting but fairly common within the region. **Score: 0**
Cultural Modifications (Maximum Total 2)	Modifications add favorably to visual variety while promoting visual harmony. **Score: 0**	Modifications add little or no visual variety to the area, and introducing no discordant elements. **Score: 0**	Modifications add variety but are very discordant and promote strong disharmony. **Score: 1**

BLM, 1986.

*A rating of greater than 5 can be given but must be supported by written justification.

An important premise of the Scenic Quality Rating Criteria method is that views with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that manmade features within a landscape do not necessarily detract from the scenic value. In fact, certain manmade features that complement the natural landscape may actually enhance the visual quality. In making this determination, it is important to assess project effects relative to the "visual character" of the project setting. Visual character is qualitatively defined by four primary components: form, line, color, and texture.

As a general rule, projects that create a high level of contrast to the existing visual character of a project setting are more likely to generate adverse visual impacts due to visual incompatibility. Conversely, projects that create a low level of contrast to the existing visual character are less likely to generate adverse visual impacts due to inherent visual compatibility. On this basis, project modifications are quantified and evaluated for impact assessment purposes.

By comparing the difference in visual quality ratings from the baseline ("before" condition) to post-project ("after" condition) visual conditions, the severity of project related visual impacts can be quantified. In some cases, visual changes caused by projects may actually have a beneficial visual effect and may enhance scenic quality.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Adverse Effect on Scenic Vista

Impact 4.1.1 The proposed project would change existing views of the solar generation facility site from surrounding lands and roadways. The project site is not considered a scenic vista nor does it contain any outstanding aesthetic features. Therefore, this impact is considered **less than significant**.

The solar energy site is located in a rural portion of Imperial County with no topographic relief. The site is not located in a designated scenic vista, nor has the Imperial County General Plan designated the project site as an important visual resource (Imperial County, 2008). The northern extent of the solar generation facility site borders I-8. However, the interstate is not designated as a state scenic highway nor are any of the roadways abutting or surrounding the project site designated or proposed scenic roadways. In addition, none of the KOPs described above are located in a designated scenic vista. The project site could be considered to have scenic value from the perspective of open space. However, the project site does not possess features or characteristics which render a high score using the Visual Quality Rating System (**Table 4.1-2**). Therefore, project impacts to a scenic vista are considered less than significant.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Degrade Existing Visual Character or Quality of the Site

Impact 4.1.2 The proposed project would convert agricultural fields to a solar generation facility thereby replacing vegetation with man-made structures. The project would alter the overall character of the project site and substantially alter views from several residences. Therefore, this impact is considered **potentially significant**.

Short-Term Visual Changes – Travelers and Residents

Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the project area. Residents living adjacent to parcels undergoing construction, as well as the Westside Elementary School located along Vaughn Road, would be subject to these visual changes throughout the 12 to 24-month duration of construction. Likewise, travelers along I-8, Drew Road and roadways adjacent to the solar generation facility site would also experience visual changes associated with the presence of construction activity. However, as various aspects of construction are completed (e.g., grading), the corresponding equipment would be eliminated from view. While construction equipment and activity may present a visual nuisance, it is temporary and does not represent a permanent change in views. Therefore, this impact is considered **less than significant**.

Long-Term Visual Changes – Travelers

The proposed project would change the existing use and character of the parcels comprising the solar generation facility site. Currently, the site is used for agricultural production (predominantly alfalfa hay) and there are no outstanding or unique visual resources located on the site. The proposed project would alter the existing visual character of the area and its surroundings as a result of converting agricultural land to a solar generation facility. The major generation equipment that will be installed on the project site includes solar modules; a panel racking and foundation design; inverter and transformer station; an electrical collection system. The project would also have Auxiliary Equipment, which would include safety and security equipment (firewater tanks, security system and security lighting, access gates, meteorological stations) and operations and maintenance facilities.

The project includes low-lying solar modules (typically up to 7 feet in height for Fixed-tilt Units and up to 11 feet for Horizontal [Single-Axis] Tracker Structures); inverter enclosures (approximately 12 feet in height) and transformers (approximately 6 feet in height) and an O&M building (approximately 18 feet in height). The entire project site would be enclosed by a 7-foot high chain-link security fence (approximately 6 feet high with one-foot consisting of three strands of barbed-wire on the top) supported by line posts spaced a maximum of 10 feet apart. Based on the see-through nature of chain link fencing, most of the proposed equipment at the site would be visible from surrounding roadways. Taller structures, such as inverter structures and water tanks would also be visible from a distance.

PV solar panels would be the predominant feature of the project with power conversion stations located within the solar arrays. Depending on the type of panel chosen, heights could range from approximately 7 feet above the ground surface for Fixed-tilt Unit to a maximum of 11 feet above the ground surface for (Horizontal [Single-Axis] Tracker Structures). Power Conversion Stations (PCS) approximately 12 feet in height would be dispersed among the arrays. The tallest structures would be the gen-tie poles which would be between 120 to 135 feet in height with a maximum height of up to 145 feet. The poles would be localized in the southern portion of the site north of the Westside Main canal and extend south to the Imperial Valley Substation through lands managed by the BLM. Based on the height of the poles, they would be visible from several miles away.

For travelers along I-8, Drew Road and roadways adjacent to the solar generation facility site, the solar generation facility and gen-tie would be noticeable changes which dominate views. However, the duration of time the site would be visible would be very short as motorists would travel quickly through areas where the project would be visible. Most of the roadways immediately adjacent to the projects site are limited to ½-mile which would be passed very quickly. The overall aesthetic quality of the area is not distinctive being devoted to agriculture with no unique or outstanding features. The change in use would appear more industrial, but would not displace or damage any outstanding aesthetic feature unique to the area or the County as a whole. Thus, the overall, long-term visual changes from the perspective of travelers would be **less than significant**.

Long-Term Visual Changes – Residents

Solar Generation Facility Site

Generally, CEQA considers visual impacts from public viewpoints. However, residents are considered to be a highly sensitive viewer group because of the long periods of time spent in personal residences, and the strong feelings attached to their homes. The solar generation facility site is readily visible from KOP #1, #2, #5, #6, #7, #8 and #9. Only KOPs #3 and #4 have intervening lands that obstruct clear views of the site. KOPs #2, #8 and #9 would all be visible from residences.

While agricultural land is not considered a significant or unique visual resource, it does represent a use of land free of development with minimal man-made features. The uniform arrangement of cultivated fields and associated color (green or yellowish brown depending on growing season or harvest) create a combined man-made and natural aesthetic. The introduction of the solar generation facility would replace the existing appearance of the area with rows of PV solar panels approximately 18-inches off the ground across approximately 1,852 acres of the 1,990 acre site. While the PV structures would be no more than a maximum of 11 feet in height and the inverter enclosures would be no more than 10 to 12 feet in height, these structures would be visible from surrounding roadways as well as residences adjacent to, or across from the project parcels.

As proposed, the project includes a chain-link security fence approximately 7-feet high with three strands of smooth wire or barbed-wire (where required by code) on the top. As shown in the visual

simulations of KOPs #1, #2, #5, #7, #8 and #9, the chain link fence would be highly visible. Moreover, while it serves as a physical barrier to keep intruders off the site, it provides no purposeful visual screening of facility itself. Hence, the change in view from rows of green cultivated fields or mowed alfalfa to rows of tilted black and metal structures is quite pronounced. This especially is the case for the horizontal tracker configuration in the area of the Westside Elementary School (KOP #2) (**Figure 4.1-4A**) (as well as the residence to the east of the school), the residence at West Wixom Road and Liebert Road (KOP #7) (**Figure 4.1-9**), the residence at West Vaughn Road (KOP #8) (**Figure 4.1-10**), and the residence at Drew Road (KOP #9) (**Figure 4.1-11A** and **Figure 4.1-11B**).

KOP #1 is highly visible along eastbound I-8. However, based on travel speeds (estimated at 55-65 miles per hour) and limited frontage (slightly over one-half mile), views would be for a very limited duration. Moreover, this portion of I-8 is surrounded by flat agricultural fields with no significant visual features in foreground views (**Figure 4.1-3**). Therefore, changes to views or the quality of the site from KOP#1 would be considered **less than significant**.

In the case of KOP #2, the Westside Elementary school would experience a considerable change in views to the south across Vaughn Road. The visual simulations were prepared using a setback of approximately 120 feet from Vaughn Road for the horizontal tracker configuration (**Figure 4.1-4A**) and a setback of approximately 300 feet from Vaughn Road for the fixed-tilt configuration (**Figure 4.1-4B**). While views of the mountains would not be entirely obstructed, the PV solar panels would place structures in an area previously consisting of low profile agricultural crops. Therefore, changes to views or the quality of the site from KOP#2 would be considered **potentially significant impact**.

The proposed solar generation facility is barely visible along the horizon as shown in KOP #3 (**Figure 4.1-5**). Setbacks from I-8 as well as intervening agricultural land make the facility virtually unnoticeable. Therefore, changes to views or the quality of the site from KOP#3 would be considered **less than significant**.

Residents at the Rio Bend RV Development would not experience a noticeable change in views when looking south toward the project. As shown in **Figure 4.1-6,** distance and intervening vegetation would serve as a natural screen for the solar generation facility from KOP #4. Therefore, changes to views or the quality of the site from KOP#4 would be considered **less than significant**.

Slightly over one mile of the project is adjacent to the west side of Drew Road. Travelers along Drew Road would have prominent views of the solar generation facility site as there is minimal setback and vegetation is sparse and intermittent (**Figure 4.1-7**). Based on traveling speeds (approximately 55 miles per hour) and length of the project frontage, travelers would have brief views of the solar generation facility from KOP #5. Background views of the mountains would be slightly, but not completely obstructed along this segment of Drew Road. Therefore, changes to views or the quality of the site from KOP#5 would be considered **less than significant**.

KOP #6 provides another view along Drew Road approaching the project site from the south (northbound). From this vantage point, the solar generation facility site appears as a low lying black band on the horizon (**Figure 4.1-8**). Agricultural fields in the foreground as well as trees and existing overhead utilities appear to dominate the traveler's view. In contrast, the solar generation facility is unobtrusive. Therefore, changes to views or the quality of the site from KOP#6 would be considered l**ess than significant**.

KOP #7 illustrates the changes that would be visible from the residence at the southeast corner of West Wixom Road and Liebert Road (**Figure 4.1-9**). This portion of the solar generation facility site includes PV solar panels and the substation, switchyard and O&M Building as well as several gen-tie pole structures.

West Wixom Road, the Fern Canal, as well as a band of reserve area for PV arrays provide a setback from the residential property. Mountains in the background are still visible and minimally interrupted by the vertical gen-tie pole structures. Nevertheless, the character of the view is changed from agricultural to an industrial-looking use. This is considered a **potentially significant impact**.

The view from the residence represented by KOP #8 would undergo a substantial visual change. The chain link fence and PV solar panels dominate views from this residence looking south (**Figure 4.1-10**). Views of the mountain range in the distance are partially obscured and the character of the area dramatically changed with the introduction of rows of PV solar panels in a previously cultivated agricultural field. As there PV solar panels abut the south side of West Vaughn Road, there is no intervening setback or buffer to provide distance between the residence and the solar generation facility site. This is considered a **potentially significant impact**.

KOP #9 illustrates the change in view that would occur for the residence along Drew Road east of the solar generation facility site. As shown, views of agricultural fields would be changed to rows of PV solar panels with a chain link fence in the foreground regardless of whether horizontal tracker or fixed-tilt PV panels are used. The visual simulations were prepared using a setback of approximately 120 feet from Drew Road for the horizontal tracker configuration (**Figure 4.1-11A**)and a setback of approximately 300 feet from Drew Road for the fixed-tilt configuration (**Figure 4.1-11B**). The final dimensions (including setbacks) may vary from what is shown on the conceptual plans (refer to Figure 2.0-5 and 2.0-6 in Chapter 2.0). Both the horizontal trackers (**Figure 4.1-11A**) and the fixed-tilt units (**Figure 4.1-11B**) would not exceed the height of the fence as viewed from this KOP. However, the horizontal tracker configuration has a higher profile and would be more noticeable compared to the fixed-tilt configuration. The Fern Canal and Wormwood Lateral 7 provide minimal separation between the residence and the solar generation facility site. Overall, the character of the view is changed from agricultural to an industrial-looking use. This is considered a **potentially significant impact**.

Gen-Tie

The portion of the Gen-tie Alternatives on federal land managed by the BLM is designated VRM Class III based on its Scenic Quality Classification of C, and High Visual Sensitivity Level, and Viewing Distance Zone of F/M (BLM, 2010 p. B-13 and A-39). The proposed gen-tie is located wholly within Utility Corridor N, a portion of BLM land where placement of transmission lines and other linear utilities are encouraged.

Construction of the proposed gen-tie will change the look and character of the BLM lands that will be crossed. Structure heights would vary from approximately 100 to 130 feet depending on terrain and would not exceed 145 feet. Single steel pole structures will be spaced approximately 400 to 800 feet apart. The VRM Class III area within which the line would be located has as its objective to partially retain the existing character of the landscape. But the level of change to the characteristic landscape from the gen-tie would be weak because while the double-circuit structures would be visible from some distance, they would look similar to the other existing electrical facilities in and around the nearby Imperial Valley Substation. Therefore, while the introduction of the Gen-tie Line would alter the existing visual character or quality of the immediate area, it would not substantially degrade existing visual quality based on its location in an area unlikely to be seen by many people. Furthermore, this portion of the Yuha Basin it is not in an area with outstanding visual features, and there are multiple existing electric infrastructure features present (consistent with the designation as a utility corridor) connecting to the Imperial Valley Substation. Therefore, **less than significant impacts** under would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the Gen-Tie.

Mitigation Measures

MM 4.1.2 Prior to issuance of construction permits, the Applicant shall work with affected landowners and ICPDS to develop a visual screening program that will screen views of the project from KOP #2, #8 and #9, if determined to be needed by each landowner.

The extent of screening shall be determined for each KOP in consultation with the school and/or residents, ICPDS and the Applicant. If vegetative screening is used, xeriscape plants shall be selected from the "Imperial County Xeriscape Guide and Map." Initial xeriscape planting, if desired by the landowner, shall be the responsibility of the Applicant. Landscape maintenance to check the health of the plants shall be performed by the landowner or Applicant, as needed and as determined by the agreement between the two parties.

Timing/Implementation: *Prior to issuance of construction permits.*
Enforcement/Monitoring: *Imperial County Planning and Development Services.*

Significance After Mitigation

Implementation of MM 4.1.2 would visually screen the proposed solar generation facility from the elementary school play yard and residence along Vaughn Road and the residence located along Drew Road. The screen would obstruct views of the solar generation facility site with xeriscape plantings and fencing. Following implementation of MM 4.1.2, impacts to visual quality and character would be reduced to **less than significant**.

New Source of Substantial Light or Glare

Impact 4.1.3 The proposed project includes non-reflective PV panels are non-reflective which are not anticipated to create glare. Likewise, the lighting system will be designed to provide the minimum illumination. Therefore, impacts associated with creation of substantial light and glare are considered **less than significant**.

Short-Term Light and Glare

Short-term sources of lighting would be introduced to the project site during construction as part of site security, storage and staging areas. The Applicant has identified a Best Management Practices to reduce construction night lighting impacts by designing and installing all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas. Furthermore, construction lighting must not cause reflected glare. Overall, the BMPs would minimize illumination of the project facilities, vicinity, and nighttime sky. Construction is not anticipated to result in major sources of glare other than vehicle windshields or reflection that may occur off of metallic surfaces (e.g. PV panel support structures) while being installed. Thus, new sources of light and glare associated with construction of the project would result in a **less than significant impact**.

Long-Term Visual Changes

Light

The project site is used for agricultural production and as such is not currently a source of light or glare. A lighting system is proposed as part of the project. Outdoor lighting for the common services area of the project facilities will consist of fixtures secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security. The lighting system would be designed to provide nighttime lighting levels consistent with applicable Imperial County lighting standards. Switched lighting

will be provided at the substation and inverters. In the PV solar field, lighting will be provided at the gates and other locations where necessary for security or safety.

The Applicant has identified a BMP regarding nighttime lighting during operation and maintenance of the project. The BMP requires using the minimum amount of nighttime lighting necessary for security purposes. The lighting must be designed to eliminate glare or spillover to areas outside of the project site. While the project would introduce some nighttime light, it would be designed to avoid a substantial change in illumination in the existing night sky environment. Thus, new sources of light associated with long-term operations and maintenance of the project would result in a **less than significant impact**.

Glare

PV modules are designed to absorb as much light as possible to maximize efficiency. In addition, PV modules use anti-reflective coatings to decrease reflection and increase conversion efficiency. The time and duration of any potential reflections from the panels are determined by the orientation of the panels and the position of the observer in relation to those panels. All PV solar projects, regardless of the type of mounting structure, orient the panels perpendicular to the sun or as close to perpendicular as much time as possible to maximize solar absorption and energy output. This results in the panels being oriented towards the sun as much as possible throughout the day and the course of the year as the position of the sun changes in the sky. This orientation towards the sun results in the portion of incoming light that is reflected to be directed back into the sky because light is reflected from a flat surface at an angle equal to that of the incoming light.

The amount of light reflected upwards would not be expected to potentially affect the Naval Air Facility at El Centro's training flights or other air traffic in the area, including crop dusters. Only 2 to 10 percent of ambient light is reflected by PV solar panels. The reflectance of panels to be used on the solar generation facility site has been calculated at various angles. The results of the calculations indicate that the index of refraction for the glass is generally the same as the windshield of a car. Therefore, the intensity of the reflected light would be low. Also, light intensity decreases with distance from the source (according to the inverse square law of light intensity where intensity is equal to the inverse square of the distance or $I = 1/d^2$). For example, each time distance is doubled from the source, the light intensity is decreased to one-quarter of its original value ($1/2^2$). Therefore, the intensity of light reflected from the PV solar panels at locations any distance from the source would be a small fraction of the original intensity at the point of reflection. Thus, any reflected light from the PV panels would be very low. Any viewers who could see the low intensity reflected light would also be exposed to significantly brighter ambient light.

As such, the PV solar modules would not create a significant source of glare during sunlight hours. Also, the project would not use other reflective materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare. Therefore, operations and maintenance of the project is not anticipated to create a new source of glare that would adversely affect day or nighttime views in the area. Thus, glare impacts are considered **less than significant**.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.1.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the cumulative setting for aesthetics, light, and glare encompasses lands within a 5-mile radius of the proposed project site. In a larger context, the cumulative setting also includes existing, approved, proposed and reasonably foreseeable projects identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Visual Impacts

Impact 4.1.4 Implementation of the proposed project, in conjunction with existing, approved, proposed, and reasonably foreseeable projects in the vicinity of the project site, would alter the visual character of the area, resulting in a change to public views as well as increased daytime glare and nighttime lighting levels. Such impacts are typically addressed on a project-by-project basis. Therefore, cumulative impacts to visual resources are considered **less than cumulatively considerable**.

Under cumulative conditions, existing views in the vicinity of the project site would be directly impacted by loss of open space, decreased views of mountainsides, and increased light and glare. The proposed solar generation facility site is surrounded by mostly agricultural land with desert land to the south and west. Construction of the proposed project would result in short-term changes to the visual character of the site associated with the presence of equipment, site clearance and solar facility installation. These visual changes would be less than cumulatively considerable due to their limited duration.

Implementation of the proposed project would visually alter the site changing its character from agricultural fields to a solar generation facility (as discussed under Impact 4.1.1). However, the site and surrounding agricultural area within the geographic scope does not contain any unique or outstanding features with high aesthetic value. Likewise, other solar projects proposed within the geographic scope are not anticipated to damage or compromise any outstanding aesthetic features as these projects would occur on flat agricultural or desert lands.

Within the geographic scope, the proposed Silverleaf Solar project would be located to south of the proposed project site. Several project parcels would have western, eastern and southern boundaries adjacent to the Silverleaf Solar project. Thus, views to the south from the proposed project would be changed from agricultural land to solar facilities. Further to the west, the Imperial Solar Energy Center West project would be developed. The project site would be separated from this project by intervening agricultural lands. Likewise the proposed Acorn Greenworks Solar Project and Centinela Solar Energy Project to the south and southeast respectively, would also have intervening agricultural lands separating these projects from the proposed project. Alteration of views within the geographic scope would visually alter the existing agricultural character of the area, but would not result in a loss of scenic views or compromise the aesthetic of an otherwise outstanding landscape.

The proposed project, in combination with past and present (existing) and reasonably foreseeable future projects (identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used), would contribute to cumulative changes to the character of the cumulative visual setting. However, because the County of Imperial allows for development of the site with issuance of a Conditional Use Permit, and there are only distant views of mountains from the project site and

surrounding area, the contribution of the proposed project to this impact would be less than cumulatively considerable.

Visual impacts are typically addressed on a project-by-project basis via mitigation such as screening, set-backs, use of earth tone colors and non-reflective building materials, and downward or shielded lighting. Visual impacts to KOP #2, #8 and #9 will be screened as described in MM 4.1.2.

The gen-tie portion of the project located on BLM managed lands would not substantially degrade the character of the site or surrounding area because it is proposed within Utility Corridor N. This corridor is designated for siting utilities and has been developed with a number of overhead utility lines.

The PV panels would cover the majority of the solar generation facility site. The PV panels are non-reflective and none of the materials proposed are anticipated to cause light and glare. Similar conditions are anticipated for the proposed Silverleaf Solar Project to the south and other solar projects within the geographic scope and as identified in Table 3.0-1. All projects are required to comply with the County's lighting ordinance to avoid excessive illumination and light spillage on adjacent properties. This portion of the County is largely undeveloped and unlit. The proposed project would not incrementally add to existing conditions such that a significant cumulative impact would occur. Lighting proposed for the project will be pointed downward and shielded to focus illumination on the desired areas only. Therefore, the project's incremental contribution to cumulative visual impacts, including light and glare, is considered less than cumulatively considerable.

Mitigation Measures

Implement MM 4.1.2.

Significance After Mitigation

Following implementation of MM 4.1.2, impacts to visual quality and character would be reduced to less than significant levels. Therefore, the project's contribution to cumulative visual impacts would be less than cumulatively considerable.