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Visual Assessment and Glare Analysis for the Seville 4 Solar Energy Project, Imperial County, California

FEBRUARY 2025

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VISUAL ASSESSMENT AND GLARE ANALYSIS FOR THE SEVILLE 4 SOLAR ENERGY PROJECT, IMPERIAL COUNTY, CALIFORNIA

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1 INTRODUCTION

This Visual Assessment and Glare Analysis Technical Report was prepared by SWCA Environmental Consultants (SWCA) in support of the Seville 4 Solar Project (project). SWCA was retained by Apex Energy Solutions, LLC (Apex Energy), to conduct field and desktop studies to provide the technical basis for the glare analysis and assessment of potential impacts to visual resources that may result from implementation of the project. In addition to a description of the existing conditions, this report describes how visual resources and glare will be potentially affected by the construction, operation, and maintenance of the project. This report may be used to support the environmental documentation and evaluation of the project pursuant to the California Environmental Quality Act (CEQA).

2 PROJECT DESCRIPTION

Although the project design and description are evolving, the following is the project description available at the time of this report.

Apex Energy proposes improvements for the 90-megawatt (MW) solar project that will consist of solar photovoltaic (PV) arrays, inverter transformer stations, a 180-MW battery energy storage system (BESS), numerous underground cable raceways, a substation, maintenance access roads, and maintenance buildings. The project proposes to use solar PV technology modules mounted on horizontal single-axis tracker systems. The fixed-frame PV module arrays would be mounted on racks that would be supported by driven piles, arranged in arrays spaced up to 30 feet apart (pile to pile) to maximize performance and to allow access for panel cleaning. Solar modules would be a maximum of 10 feet high. These arrays would be separated from each other and the perimeter security fence by at least 20-foot-wide interior roads to provide access to all areas for maintenance and emergency vehicles.

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to pad-mounted inverters in weatherproof enclosures located within the arrays. Underground or overhead collection lines would transmit electricity to the new on-site Seville 4 substation, proposed to be located on the southeastern corner of Imperial County Assessor's Parcel Number (APN) 018-170-064. From the Seville 4 substation, the project would connect to a 92-kilovolt (kV) generation tie (gen-tie) line on the eastern project area boundary that extends east to a substation within the Titan Solar project.

The proposed BESS will be constructed in the southeast corner of the project area and will consist of either lithium ion or flow batteries. Underground trenches with conduits would be used to connect the batteries to the control and monitoring systems, and inverters would be used to convert the PV-produced DC power to alternating current (AC) power.

Due to the relatively flat-lying topography, project area grading is expected to entail minor cuts and fills to provide access roads, drainage, and building sites for structures. An estimated 90% of ground disturbance would consist of excavation and post installation, as well as trenching for underground utilities and drainage culverts performed using mechanical methods. The remaining 10% of ground disturbance would be caused by overland travel for improvements and maintenance of solar panel blocks with solar PV arrays and various inverter transformer stations.

All proposed treatment areas, including roads, trails, access roads, and staging areas, are on previously disturbed soils. Ground disturbance is not anticipated to exceed a depth of 8 feet by vibratory pile hammer and is not anticipated to exceed 48 inches for trenching for underground utilities and would be a result of heavy equipment use. The project lifespan is 20 to 25 years.

Buffer zones will be established around all biologically and culturally sensitive resources, as necessary. In addition, a 50-foot-wide buffer will be established around all streams and floodplains. Six-foot-high, barbed-wire security fencing would be installed around the perimeter of each of the project areas at the commencement of construction.

3 VISUAL SETTING

Apex Energy proposes to construct a 90-MW solar facility with a 180-MW BESS on approximately 339 acres located in unincorporated Imperial County, California (Figure 1). The proposed project area is just south of State Route (SR) 78, approximately 7 miles east of Ocotillo Wells, and approximately 9 miles west of SR 86. The project area is also approximately 14 miles from the southern tip of the Salton Sea and 4 miles east of the Imperial County–San Diego County line.

The project area is partially situated on San Felipe Creek, and the general area surrounding the project area is either vacant land consisting of sand dunes and local washes or developed solar fields. The proposed Seville 5 Solar project is immediately to the north, on currently vacant land. Developed portions of Seville 1 and Seville 2 Solar facilities are located immediately to the east of the project, and the Titan 1 Solar facility is located to the southeast. An existing switching station for Titan 1 Solar is located along the northeast side of the proposed Seville 4 project, which will serve as the point of interconnection for the Seville 5 project. Vacant land and San Felipe Creek are to the south, with the Ocotillo Recreational Vehicle (RV) Resort approximately 0.5 mile northwest. The project area exhibits a generally planar and flat-lying topography, which can be partially attributed to previous agricultural activities that included in-filling the former creek bottom of San Felipe Creek. The project is located on one privately owned parcel, Imperial County Assessor's Parcel Number 018-010-043. The project area is in Sections 15 and 22, Township 12 South, Range 9 East, as depicted on the U.S. Geological Survey Borrego Mountain SE, California, 7.5-minute quadrangle (Figures 1 through 3).

The project area is in the western portion of Imperial County, within the Imperial Valley, which is part of the larger Sonoran Desert. The regional landscape character varies greatly. It includes natural visual resources such as deserts, sand dunes, mountains, and the Salton Sea. The region includes substantial agricultural areas, as well as built environments such as urban centers, and solar, wind, and geothermal energy development.

Agricultural areas dominate much of the region and are often seen as geometric patterns in the landscape, interspersed with farmhouses and other agricultural structures. Irrigation canals typically parallel dirt farm roads. Agricultural processing facilities, fertilizer plants, and other agriculture-related operations are present throughout the Imperial Valley. Several cattle feed yards, other animal ranches, and aquaculture farms are also located throughout the Imperial Valley. A number of areas previously used as farmland are being converted to solar power facilities.

Imperial County's urban areas include both incorporated and unincorporated communities. These areas are often characterized by low-rise, mixed-use development and contain a wide range of residential, commercial, and industrial uses.

Mountains are an important visual resource in the region. The eastern foothills of the Peninsular Range include the Jacumba Mountains and Coyote Mountains and run along the County's southwest side. Other mountains visible in the western portion of the region include the Borrego Mountains to the northwest, the Vallecito Mountains to the west, the Split Mountains to the southwest, the Fish Creek Mountains to the south, and the Superstition Mountains to the southeast.

Vegetation plays an important part in defining the region's visual quality and character. The region's unique combination of desert plains and washes, mountain ranges and hills, and proximity to the Salton Sea supports a wide range of vegetative land cover throughout the area. Native desert plant communities are dominant in the natural landscape, as well as in many developed locations and consist primarily of desert vegetation from the creosote bush scrub community. Other plants include ocotillo, mesquite, palo verde, saltbush, and encelia. Vegetated cropland defines much of the flatter areas of the Imperial Valley floor. Ornamental landscaping associated with development is also part of the visual setting.

SR 78, which passes immediately north of the project area, is a primary east-west highway in the region. SR 78 in the project vicinity is identified as Eligible in the State Scenic Highway system (California Department of Transportation 2023). The *Imperial County General Plan, Circulation and Scenic Highways Element* (Imperial County 2018) states that this route is considered scenic because of its desert characteristics and view of the Salton Sea. The Juan Bautista de Anza National Historic Trail corridor passes immediately adjacent to the southwestern portion of the project area.

The 339-acre project area is relatively flat, with a maximum elevation of approximately 12 feet below mean sea level at the northwestern corner of the project area and a minimum elevation of approximately 29 feet below mean sea level at the southeastern corner. The project area is bounded to the east and southeast by lands currently used for solar generation. The land to the south of the existing solar facility is open desert. North of SR 78 is an open-desert off-road vehicle recreation area. An existing electrical substation is approximately 2 miles east of the project area along SR 78. A few residential buildings are scattered west of the project area. An RV park is located along SR 78 approximately 0.8 mile west of the project area. The northern perimeter of the project area is approximately 2,000 feet south of SR 78. Existing overhead distribution lines parallel SR 78 to the north. The project area is currently fenced and mostly undeveloped and is used to access the existing solar facilities to the southeast. A sparse windrow of trees defines a portion of the western perimeter of the area.

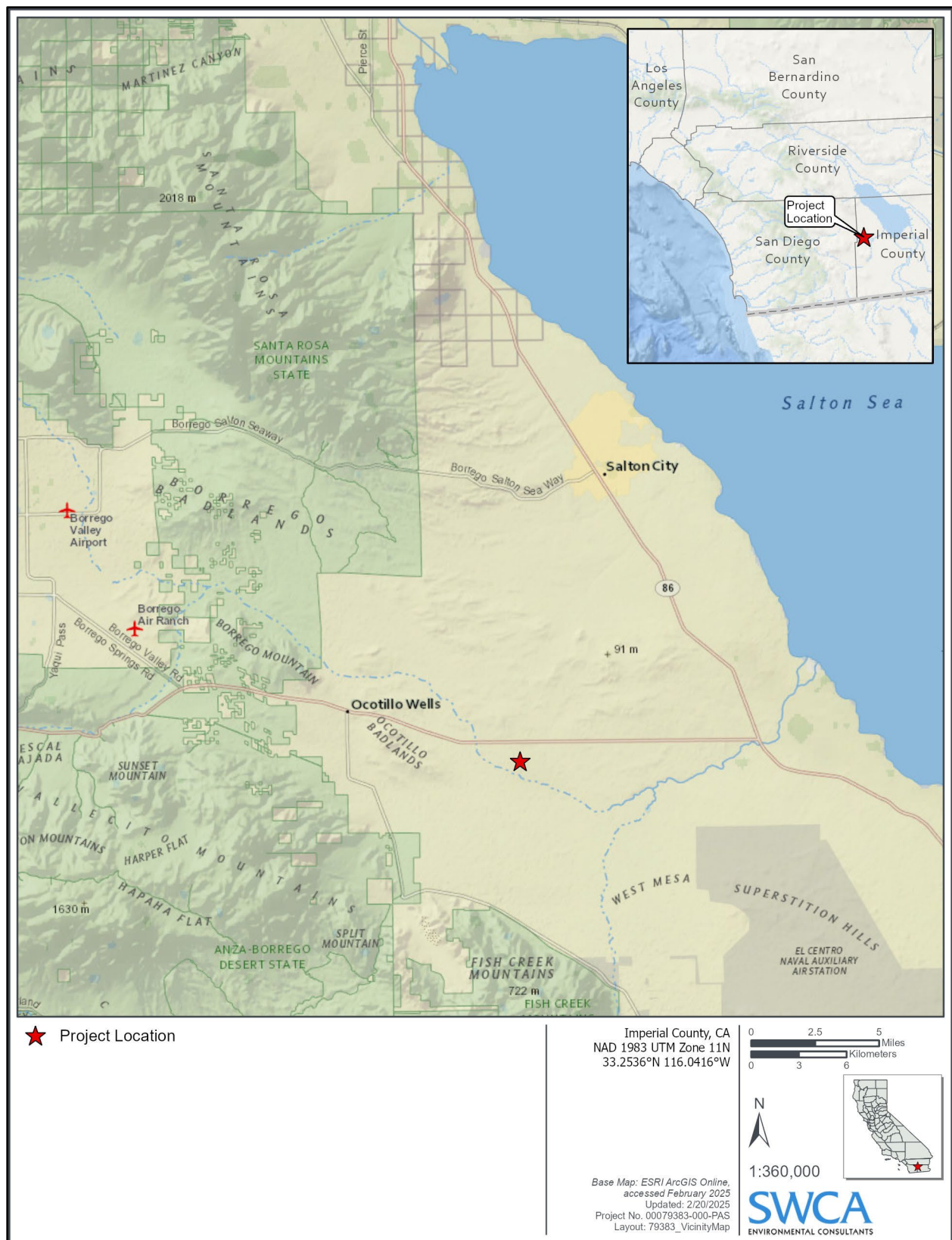


Figure 1. Project vicinity map.

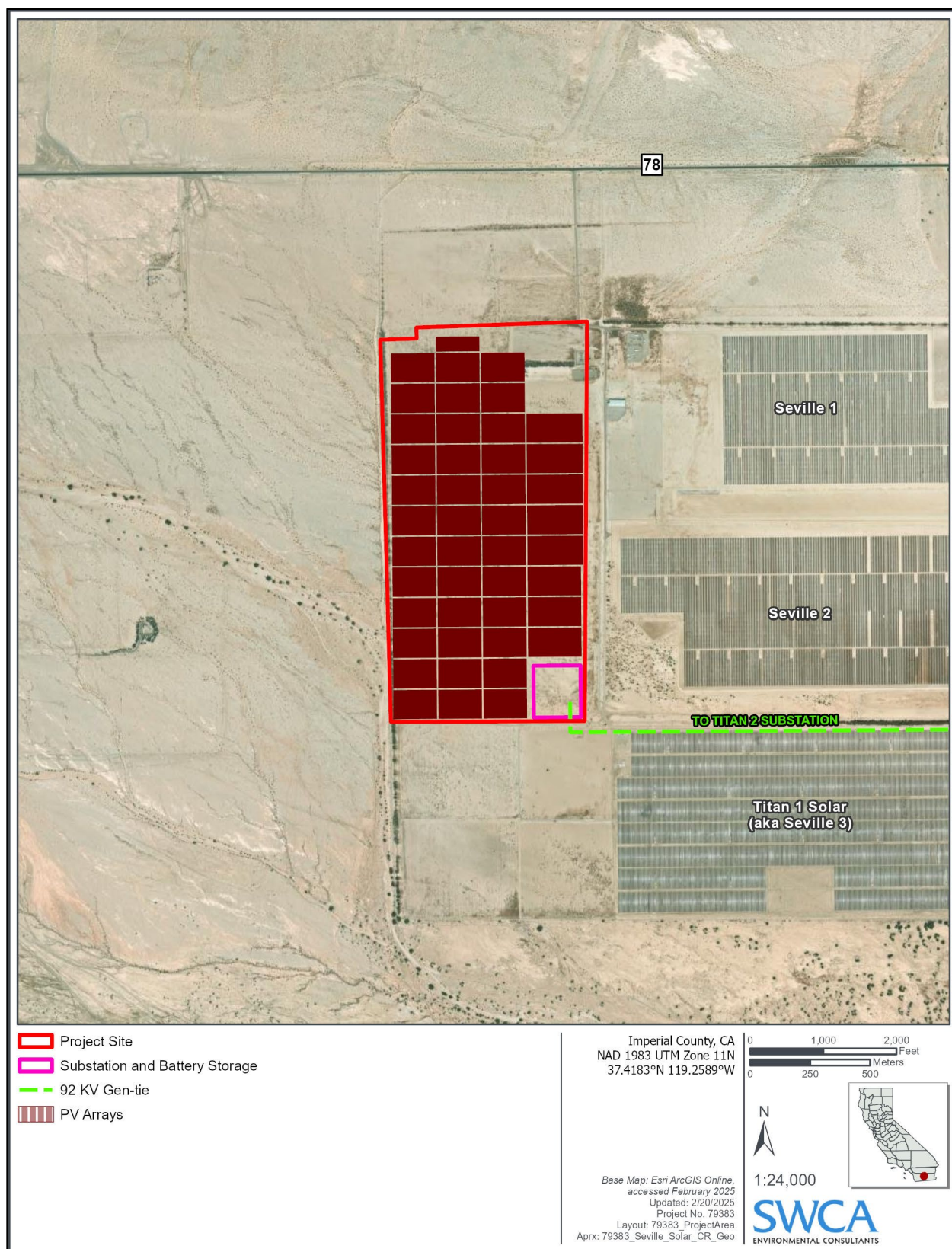


Figure 2. Project layout map.

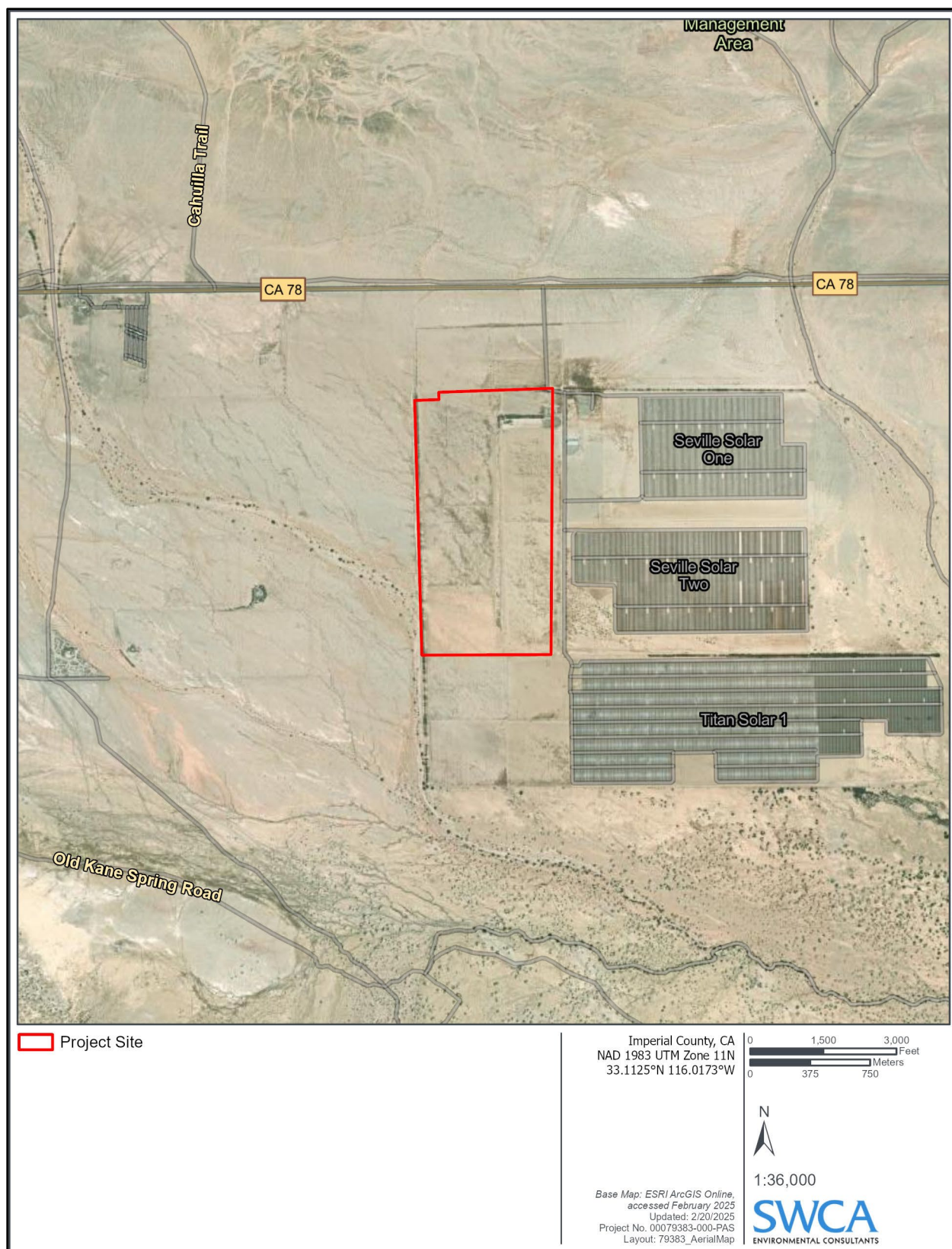


Figure 3. Project setting map.

4 REGULATORY SETTING

In addition to their regulatory application, the following policies, ordinances, and goals may serve as indicators of potential sensitivity to changes in the visual environment for purposes of subsequent assessment of visual impacts associated with implementation of the project.

4.1 Imperial County

4.1.1 General Plan Land Use Element

This section is derived from the *Imperial County General Plan, Land Use Element* (Imperial County 2015).

4.1.1.1 PURPOSE OF THE LAND USE ELEMENT

The *Imperial County General Plan, Land Use Element* states the following (Imperial County 2015:2):

The six basic concepts herewith adopted by the Board in support of the General Plan are:

- Quality of Life.
- Safety for people and property.
- Wide selection of social and economic opportunities.
- Efficient use of natural, human, and financial resources.
- Clean air, water and land.
- Quiet, beautiful communities and rural areas.

4.1.1.2 GOALS AND OBJECTIVES – REGIONAL VISION

As stated in *Imperial County General Plan, Land Use Element*, the regional vision goal includes the following (Imperial County 2015:37):

Goal 3: Achieve balanced economic and residential growth while preserving the unique natural, scenic, and agricultural resources of Imperial County.

- Objective 3.1. Maintain and improve the quality of life, the protection of property, and the public health, safety, and welfare in Imperial County.
- Objective 3.2. Preserve agriculture and natural resources while promoting diverse economic growth through sound land use planning.
- Objective 3.3. Attain County growth and development patterns that are orderly, safe, and efficient, utilizing appropriate financing resources.
- Objective 3.4. Protect/improve the aesthetics of Imperial County and its communities.

4.1.2 General Plan Open Space and Conservation Element

This section is derived from the *Imperial County General Plan, Conservation and Open Space Element* (Imperial County 2016).

4.1.2.1 REGIONAL AESTHETICS – SCENIC VISUAL RESOURCES

Note: The Open Space and Conservation Element Figure 9 (VRI Sensitivity Level Ratings for BLM-Managed Lands) map shows the project area within an area where "Maintenance of Visual Quality has High Value" (Imperial County 2016).

As stated in the *Imperial County General Plan, Conservation and Open Space Element* (Imperial County 2016:27):

County areas for BLM-managed lands are shown on Figure 9 of the Open Space and Conservation Element, and depict the values of the County's visual resources based on their Visual Resource Inventory (VRI) process. Areas with a moderate to high value for maintenance of visual quality could represent opportunities for conservation and open space areas. Although these areas are within BLM lands, private inholdings under the County's jurisdiction may be available for conservation or open space designations. The County also includes agricultural areas and built environments such as urban areas and solar, wind, and geothermal energy development

In addition, Figure 10 (Imperial County Recreation and Open Space Areas) shows the Juan Bautista de Anza National Historic Trail passing immediately south of the project area (Imperial County 2016:35).

4.1.2.2 SCENIC HIGHWAYS

No state scenic highways have been designated in Imperial County; however, the following route in Imperial County is considered eligible for a State scenic highway designation (Imperial County 2016:28):

SR 78: The portion of SR 78 from the junction with SR 86 to the San Diego County line is eligible for a future scenic highway designation. That area is considered scenic because of its desert characteristics and view of the Salton Sea.

4.1.2.3 GOALS AND OBJECTIVES

4.1.2.3.1 Conservation of Visual Resources

As stated in *Imperial County General Plan, Conservation and Open Space Element* (Imperial County 2016:39):

Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activities.

Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

4.1.2.3.2 Protection of Open Space and Recreational Opportunities

As stated in *Imperial County General Plan, Conservation and Open Space Element* (Imperial County 2016:40):

Goal 8: Open space shall be maintained to protect the aesthetic character of the region, protect natural resources, provide recreational opportunities, and minimize hazards to human activity.

4.1.2.4 OPEN SPACE AND RECREATION CONSERVATION

4.1.2.4.1 Programs

As stated in *Imperial County General Plan, Conservation and Open Space Element* (Imperial County 2016:51):

Encourage the use of unobtrusive materials, structures, and color in power line transmission corridors. Vegetative screening is encouraged wherever possible.

4.1.3 Imperial County Code of Ordinances – Title 9 Land Use Code

Division 17, Chapter 2, Section 91702.00, Item U states (Imperial County 2023):

Shrubs, trees, and ground cover shall be planted and maintained to complement the appearance of the project where soil conditions permit as appropriate and as approved by the Director of Planning and Development Services.

5 VISUAL ASSESSMENT

5.1 Methodology Overview

Field Reconnaissance

Field reviews of the project area were conducted on May 8 and 9, 2023, to document and gain an understanding of the existing landscape quality and character, and to compare those existing values with the proposed project components (e.g., solar arrays, BESSs, substations, and gen-tie lines), as well as to collect the necessary photographic documentation for subsequent analysis and simulations. Field reconnaissance included a review of the entire project area, as well as the surrounding area. Resource inventories were conducted both on foot and from moving vehicles. Existing visual resources and project area conditions were photographed and recorded. The project area assessment of proposed project elements was based on plans and descriptions provided by Apex Energy (see Figure 2). If project information was not available, project elements were assumed to be similar in basic appearance to other constructed solar energy facilities throughout the region and state.

Key Observation Point Selection

The project area was viewed from potential viewer group locations in the surrounding area. Representative public view points were identified for further analysis, based on dominance of the project area within the view, the relationship to visual resources, duration of views, and expected sensitivity of the viewer group. Of those representative view points, four key observation points (KOPs) were selected that best illustrate the visual changes that would occur as a result of the project (see Section 5.2, Project Visibility and Key Observations Points).

Visual Simulations

Visual simulations were prepared to quantify potential project visibility and to assess related visual effects (Appendix A). The appearances of structures shown in the photo simulations are based on preliminary designs provided by Apex Energy and as identified in the project description. Where project information

was not available, project features were assigned a physical appearance typical of similar solar energy facilities built throughout the region and state.

Visual Contrast Analysis

To provide a systematic basis for potential subsequent evaluation of impacts to visual resources resulting from the construction and operation of the proposed project, the visual assessment uses the BLM Visual Resource Management System. The BLM system was adapted for project purposes and used to document the potential visual contrast of the proposed project components to the surrounding landscape (see Section 5.4, Contrast Analysis). BLM Contrast Analysis is an industry standard that can be used as a basis for subsequent CEQA visual impact assessments and provides the public and authorizing agencies with a consistent and translatable methodology for understanding an important component of potential visual impacts.

Glare Analysis

To determine the potential for significant glint or glare from solar panels and other built-project components, SWCA used the Sandia National Laboratory's online GlareGauge (Forge Solar 2025). The glare tool and associated analysis illustrate via Google Earth imagery where the project is relative to sensitive viewing locations such as airports, KOPs, and roads/highways. The glare analysis provides a quantitative assessment of when and where glare from the project components will occur throughout the year and shows potential effects on the human eye at locations where glare occurs. Additional information regarding the orientation and tilt of the PV panels, reflectance of project components, local environmental conditions, and ocular factors (e.g., flash blindness) are considered in Section 6, Glare Analysis.

5.2 Project Visibility and Key Observation Points

5.2.1 General Project Visibility

Because of the project's proximity to a state highway and recreation areas, combined with the general openness of the desert landscape, the potential for public visibility of project improvements is moderately high. Based on analysis of the project viewshed map (Figure 4) and verified by field reconnaissance, the following is an overview of the project's potential visibility as seen from the surrounding area.

The project viewshed map was created using ArcGIS Pro software incorporating a 1/3 arc-second digital elevation model. The viewshed model indicates where theoretical direct line-of-sight views may occur between terrain locations and points used to represent the locations and heights of project components. The model is based on elevation and landform and does not account for vegetation, existing structures, or other landscape elements that could obstruct views. It models the approximate heights and locations of the project components and incorporates those features into the existing landform to illustrate the areas from which the project would potentially be visible within a 3-mile radius. Although the project may be seen to some degree from beyond the 3-mile analysis area, the project is not expected to draw the attention of viewers from such areas due to distance, viewing angle, and the presence of intervening and surrounding landscape features where viewer focus would be directed.

Visibility from Residences

A few private residences are scattered west and southwest of the project area. Most of these residences have viewing distances to the project area ranging from approximately 1 to 1.5 miles. The extent of views from these locations to the project area varies with the adjacent topography and surrounding vegetation.

Existing views toward the project area from these residences include the existing Titan 1, Seville 1 and Seville 2 solar facilities immediately southeast of the project area.

Visibility from Transportation Corridors

The project would have the potential to be seen from an approximately 7-mile section of SR 78, generally between Old Mine Road to the west and around 3 miles east of Pole Line Road. An annual average of approximately 1,200 vehicles travel SR 78 adjacent to the project area daily (California Department of Transportation 2021). From the more distant viewpoints along SR 78, although theoretically visible, the project area is difficult to identify within the overall landscape. From closer viewpoints along SR 78, the project area becomes more distinguishable, as do the existing adjacent solar power facilities.

Visibility from Recreational Areas

Formal recreation areas having potential views of the project area include the Ocotillo Wells State Vehicular Recreation Area, which occupies most of the land north of SR 78. The quality of views from the recreation area to the project area varies greatly depending on distance, elevation, orientation, landform, and vegetation. Recreational users of the area may be as close as 100 feet (from directly across SR 78), to several miles away from the project area, where viewing distances would effectively eliminate visual perception of the project. Ocotillo RV Resort is located approximately 0.6 mile west of the project along SR 78.

Visibility from the Juan Bautista de Anza National Historic Trail

The Juan Bautista de Anza National Historic Trail corridor passes to the southwest of the project area. Although the specific trail alignment is uncertain and undeveloped in this area, official National Park Service (NPS) signage on SR 78 and the NPS Juan Bautista de Anza National Historic Trail website directs the public to this area, as part of the overall historic trail corridor alignment (NPS 2023). In general, views from this historic trail to the project area would vary, but along some segments would likely be close-range and unobscured.

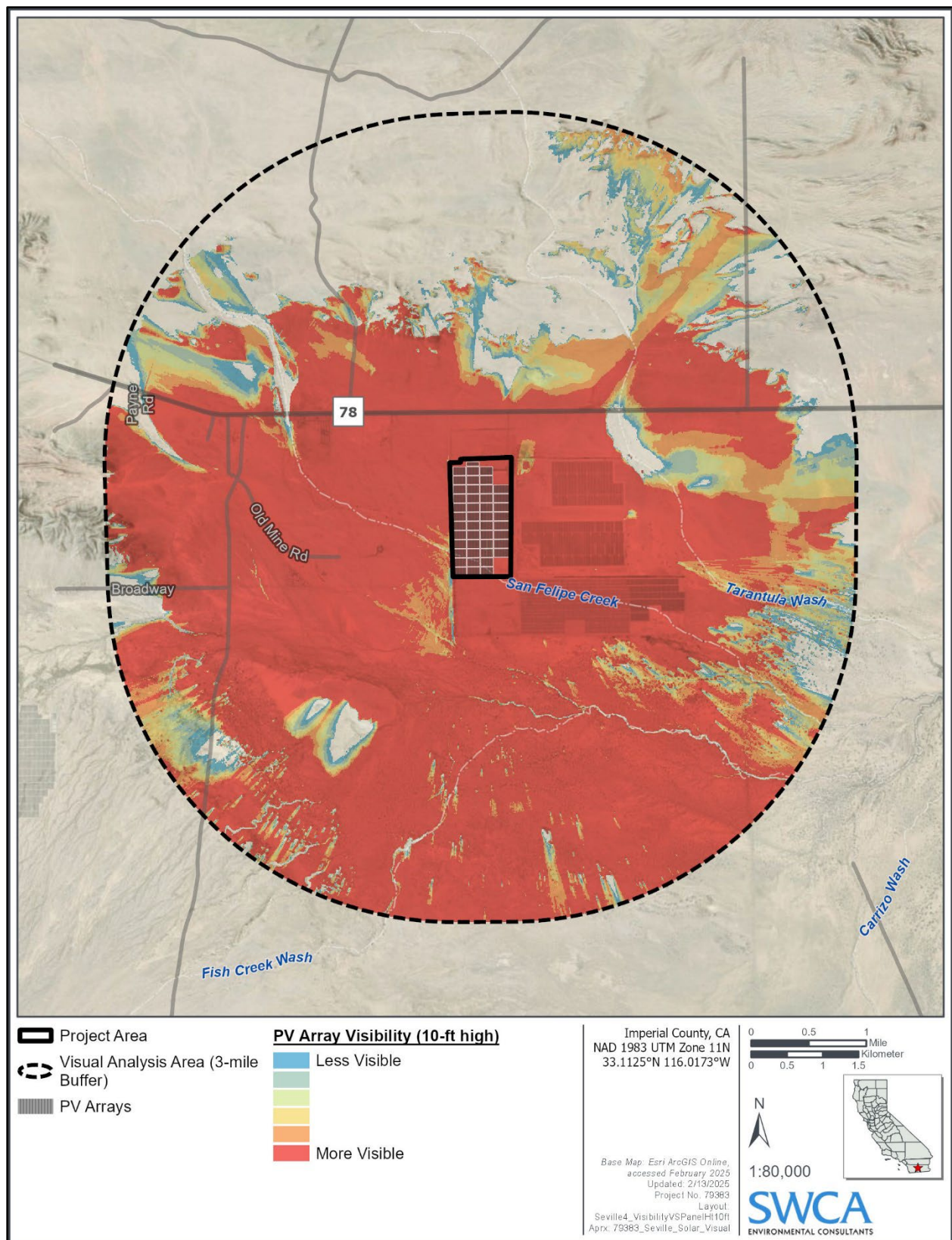


Figure 4. Project viewshed map.

5.2.2 Key Observation Points

KOPs selected for further analysis represent visually sensitive areas that would have potential views of the project and consist of either high-use travel routes or public roadways serving nearby residential development or public recreational facilities. Assessments of existing visual conditions consider sensitive receptors and sensitive viewing areas in the project vicinity. As a result, the four KOPs in Table 1 and Figure 5 were identified for further analysis and photo simulation viewpoint locations:

Table 1. Key Observation Point and Visual Simulation Locations

KOP	Viewpoint Location	GPS Coordinates Latitude, Longitude
KOP 1	From near Ocotillo RV Resort and SR 78, facing southeast.	33.125766°, -116.039593°
KOP 2	From SR 78, facing southwest.	33.125786°, -116.009536°
KOP 3	From Pole Line Road approximately 0.35 mile north of SR 78, facing southwest.	33.130755°, -115.977646°
KOP 4	From BLM Road 191, approximately 300 feet south of SR 78, facing southwest.	33.124887°, -115.978043°

5.3 Visual Simulations

Realistic photo simulations were prepared from each of the KOPs to quantify potential project visibility and to assess related visual effects (see Appendix A). The locations of the KOPs are shown in Figure 5. Visual simulations of the project components were made using ArcGIS, Google Earth Pro, Autodesk products (AutoCAD and 3DS Max), and Adobe Photoshop software for each KOP.

Two to three horizontal photographs were taken with a digital single-lens-reflex camera at each KOP for use in producing a panoramic photograph with a single-frame simulation photograph to represent 50 millimeters, the approximate field-of-view a human eye would see looking toward the project from each KOP. The photograph points were recorded using a GPS unit, and photographs were collected under typical sunny and generally clear viewing conditions.

The simulations were developed by superimposing a three-dimensional computer model of the proposed project components on a digital elevation model and then placing that onto the base photographs at the correct scale and distance. Date and time of day inputs determine shadows and reflected light, and the software accounts for distance and haze to increase the accuracy of the viewing conditions.

The project design is evolving, and the visual simulations are based on information available at the time of this report. Project components seen in the photo simulations are based on plans and descriptions provided by Apex Energy. If project information was not available, project elements were assumed to be similar in basic appearance to other constructed solar energy facilities throughout the region and state. As a result, in addition to the information provided by Apex Energy, assumed specifications of project components shown in the visual simulations include the following: 1) portrait-oriented PV panels, 2) solar array panels 7 feet aboveground, with a maximum tracking angle at 60 degrees facing east or west, and a resting angle of -5 degrees, 3) a 9-foot-tall BESS, and 4) a 70-foot-tall A-frame structure in the substation.

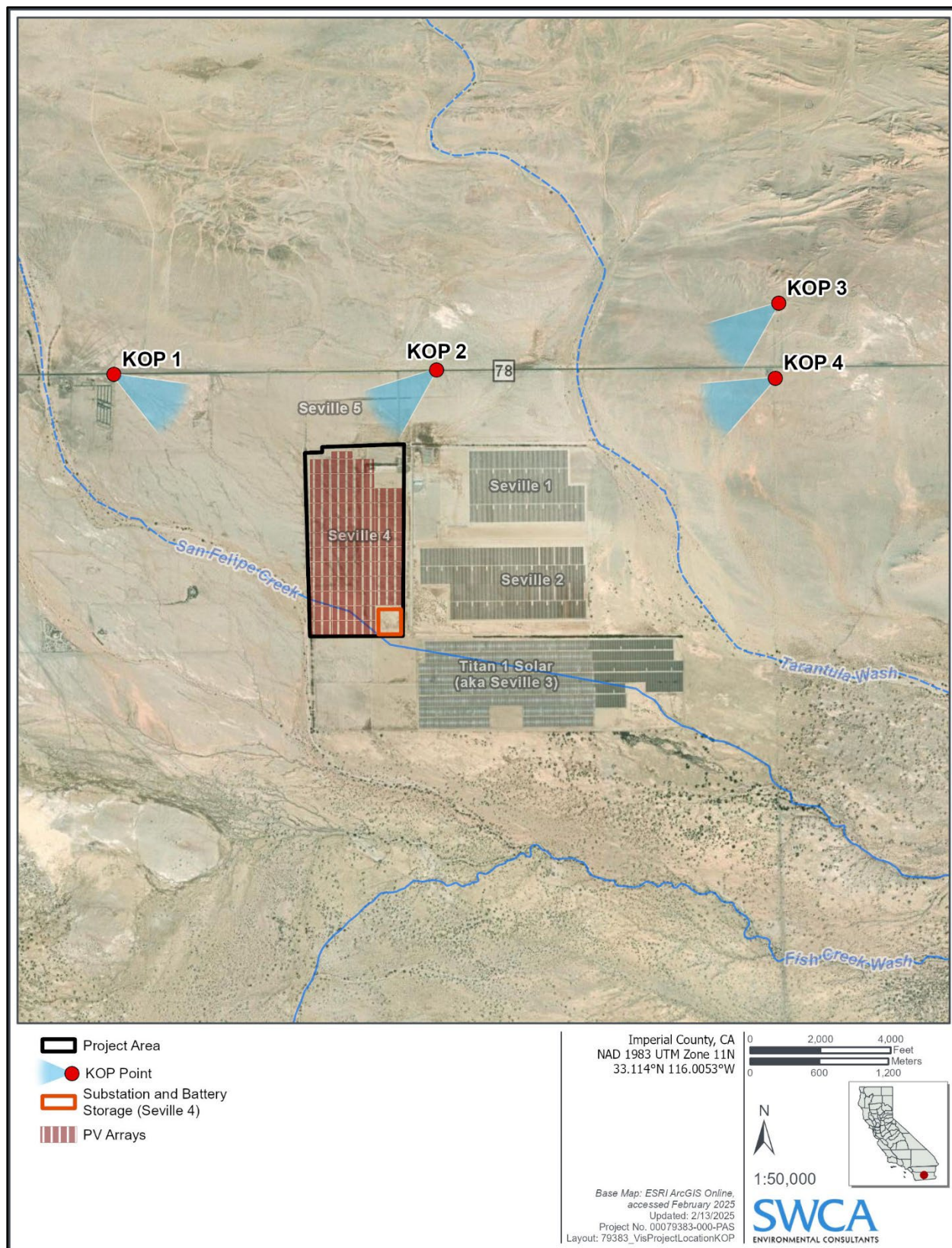


Figure 5. Key observation point locations.

5.4 Contrast Analysis

The contrast analysis is based on information available at the time of this report, and subsequent project changes may require revisions to the analysis and related findings.

The visual contrast analysis is a qualitative discussion of the anticipated contrast between the existing landscape character and the proposed activities and/or facilities. Factors considered for such an analysis include the distance of the proposed project elements from the viewer and the level of perceived contrast between the proposed project elements and the existing landscape. These factors are further defined below. The Contrast Rating Worksheets are provided in Appendix B.

The following distance zones were used for evaluating impacts on scenery from each KOP:

- Foreground: up to 0.5 mile
- Midground: 0.5 to 3 miles
- Background: 3 to 5 miles

The levels of perceived contrast between the proposed project elements and the existing landscape from each KOP were classified using the following terms:

- None: The element contrast is not visible or perceived.
- Weak: The element contrast can be seen but does not attract attention.
- Moderate: The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- Strong: The element contrast demands attention, would not be overlooked, and is dominant in the landscape.

5.4.1 Project and Contrast Analysis by KOP

Impacts to scenic resources were determined by examining the simulations and evaluating the visual change and contrast with the existing landscape that would result from the construction and operation of the project. The locations and coordinates of the KOPs are provided in Figure 5 and Table 1, respectively, and the visual analysis for each of the four KOPs is provided below. Photographs of the existing conditions along with simulations of the proposed project are shown in Appendix A. Contrast Rating Worksheets for each of the KOPs are provided in Appendix B.

5.4.1.1 KOP 1

Location: From near the Ocotillo RV Resort and SR 78, facing southeast.

KOP 1 represents the view from a vehicle traveling on SR 78 northeast of the project area, and is similar to recreational views from the Ocotillo RV Resort. The view from this KOP is characterized by broad, panoramic views of slightly undulating terrain leading to the curving and irregular low mountains in the distant background. The vegetation consists of generally rounded, low- to moderate-coarse patches of light to dark khaki and light green to dark green desert shrubs consistent throughout the scenery. Transmission lines made of coarse, dark brown, vertically standing wood poles and smaller dark fence poles with a thin wireframe continue horizontally, and consistently, through the midground in addition to geometric residential and existing solar facility structures. The transmission pole and fence line in the

foreground draw the eye and are a focus of attention from this KOP because of their prominence against the broad, panoramic landscape; pale, soft sandy soil; and the pale blue sky.

The proposed project would be approximately 1.1 miles southeast of this KOP location. Based on the level viewer perspective, the close distance to the KOP, and the short duration of recreation and travel route views, the proposed project would begin to attract attention from this KOP. The project would begin to be perceivable from this viewpoint; would introduce similar form, line, color, and texture to the existing solar facility infrastructure in the immediate area; and would screen or partially screen existing quality views. Therefore, it is anticipated that there would be weak (low) perceived visual contrast created by the project within the existing landscape from KOP 1.

5.4.1.2 KOP 2

Location: From SR 78, facing southwest.

KOP 2 represents a viewer traveling on SR 78, northeast of the project area. Views of the immediate foreground are represented by light to dark khaki and low to moderate shrubs, fine sandy soils, and bright white and yellow lane lines on an asphalt road. Transmission lines made of coarse, dark brown, vertically standing wood poles connected by curved galvanized conductor wires are consistently spaced apart, and geometric residential and existing solar facility structures throughout the midground. In the background, views are represented by mountains to the northwest, west, and south.

The project area is approximately 0.2 mile southwest of this KOP location. Based on the level viewer perspective, the close distance to the KOP, and high travel speeds of the viewer, the project would be very noticeable from this KOP. The project would introduce form, line, and color similar to existing solar facilities in the form of subdued gray to black geometric solar arrays, which would attract attention to the viewer. Therefore, it is anticipated that there would be moderate (medium) perceived visual contrast created by the project within the existing landscape from KOP 2.

5.4.1.3 KOP 3

Location: From Pole Line Road approximately 0.35 mile north of SR 78, facing southwest.

KOP 3 represents views from recreation users traveling along Pole Line Road, northeast of the project area. Views from this KOP are characterized by broad, panoramic views of soft, curving, and slightly undulating terrain with irregular small and large areas of light khaki to light brown and green, low to high desert shrubs. Views in the immediate foreground are represented by the light tan, soft sandy soils from Pole Line Road, and small, irregular desert shrubs. The consistent brown, wooden, vertical geometric transmission structures and the geometric smooth and continuous subdued grey to dark blue of the existing solar facilities throughout the midground are a focus of attention from this location because of their prominence in the broad, panoramic landscape. In the background, views are represented by rectangular residential and existing solar facility structures leading up to the rock-covered mountains to the northwest, west, and south.

The proposed project would be approximately 2.1 miles southwest of this KOP location. Based on the superior viewer perspective, the distance to the KOP, and the short duration of recreation views, the proposed project would begin to attract attention from this KOP. The project would begin to be perceivable from this viewpoint and would introduce similar form, line, color, and texture to the existing solar facility infrastructure in the immediate area and would screen or partially screen existing quality views. Therefore, it is anticipated that there would be weak (low) perceived visual contrast created by the project within the existing landscape from KOP 3.

5.4.1.4 KOP 4

Location: From BLM Road 191, approximately 300 feet south of SR 78, facing southwest.

KOP 4 represents the view of a recreation user just south of SR 78 approaching the BLM open space to the south. This KOP also represents potential viewers accessing the Juan Batista de Anza National Historic Trail corridor, which passes approximately 3 miles south of this viewpoint and is identified by BLM interpretive signage along SR 78. Views from this KOP are characterized by broad, panoramic views of soft, curving, and slightly undulating terrain with irregular small and large areas of light khaki to light brown and green, low to high desert shrubs. Midground and background views are represented by the light tan rocky sandy soils from Juan Batista de Anza National Historic Trail and BLM Road 191, and small, irregular desert shrubs. The geometric smooth and continuous subdued grey to black of the existing solar facilities through the midground are a focus of attention from this location because of their prominence in the broad, panoramic landscape. In the background, views are represented by tall, dark, consistently spaced transmission monopoles and rectangular residential and existing solar facility structures leading up to soft, undulating and curving mountains to the northwest, west, and south.

The proposed project would be approximately 2 miles southwest of this KOP location. Based on the level viewer perspective, the distance to the KOP, and the short duration of recreation, the proposed project would begin to attract attention from this KOP. The project would begin to be perceivable from this viewpoint; would introduce form, line, color, and texture similar to the existing solar facility infrastructure in the immediate area; and would screen or partially screen existing quality views. Therefore, it is anticipated that there would be weak (low) perceived visual contrast created by the project within the existing landscape from KOP 4.

5.5 Cumulative Visual Effect

The discussion of cumulative visual effect relates to the potential for the project to contribute to an aggregate change in visual quality from the surrounding public viewing areas, taking into consideration existing as well as proposed development.

The project area is adjacent to three existing solar energy facilities (Titan 1, Seville 1, and Seville 2) that have been in operation since 2015 and 2019. These solar energy facilities are generally set back from SR 78 and sensitive viewpoints, which reduces their noticeability in the overall the landscape. These three solar facilities also define the existing visual character of the project vicinity as a utility-generating area.

An approximately 267-acre solar power facility (Seville 5) is proposed immediately north of the Seville 4 project, adjacent to SR 78.

When considered in the visual context of the existing and proposed solar energy facilities, the Seville 4 project would appear as a logical use of the area and would not be visually unexpected in the vicinity or the region.

6 GLARE ANALYSIS

The glare analysis is based on information available at the time of this report, and subsequent project changes may require revisions to the analysis and related findings. Analysis for the Seville 4 Solar Energy Project used the GlareGauge (also known as Solar Glare and Flux Analysis Tool) model developed by Forge Solar and the U.S. Department of Energy's Sandia National Laboratories to evaluate potential glare (Forge Solar 2025). The analysis focused on potential glare effects on observation points and linear travel

routes. Aircraft landing and approach were considered in the analysis. The proposed Seville 4 Solar Energy Project site is approximately 6.3 miles southeast of the county-owned and publicly used Ocotillo Wells Airport, approximately 8.9 miles southwest of the privately owned and publicly used Salton Sea Airport, and approximately 15.3 miles southeast of the private Borrego Air Ranch Airport. There are no air traffic control towers at these airports; therefore, none were included in the analysis. Although the project is not on airport property, and therefore not subject to Federal Aviation Administration jurisdiction under Federal Aviation Regulations 77 to protect airspace safety and is beyond the 2-mile final approach as defined in the Interim Solar Policy, Apex Energy has sought to voluntarily apply Federal Aviation Administration ocular hazard standards (*Federal Register* 78:63276).

6.1.1 Software

GlareGauge employs an interactive Google map where the user can quickly locate a site, draw an outline of the proposed solar energy system, specify observer locations, and if needed, specify aircraft approach paths. Latitude, longitude, and elevation are automatically recorded through the Google interface, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the solar energy panels, reflectance, environment, and ocular factors are entered by the user.

If glare is found, the tool calculates the retinal irradiance and subtended source angle (size/distance) of the glare source to predict potential ocular hazards, ranging from a temporary afterimage to retinal burn. The results are presented in a simple, easy-to-interpret plot that specifies when glare will occur throughout the year, with color codes indicating the potential ocular hazard. The tool can also predict relative energy production while evaluating alternative designs, layouts, and locations to identify configurations that maximize energy production while mitigating the impacts of glare.

6.1.2 Assumptions

- The proposed solar project will operate 365 days per year, during daylight hours.
- “Green” glare is glare with low potential to cause an afterimage (flash blindness) when observed prior to a typical blink response time.
- “Yellow” glare is glare with potential to cause an afterimage (flash blindness) when observed prior to a typical blink response time.
- “Red” glare is glare with potential to cause retinal burn and permanent eye damage.
- Times associated with glare are denoted in standard time.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover, and geographic obstructions.
- Several calculations use the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array subsections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size.
- Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards.

- Glare locations displayed on receptor plots are approximate. Actual glare spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- The glare hazard determination relies on several approximations, including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
- Actual ocular impact outcomes encompass a continuous, rather than a discrete, spectrum.¹

6.1.3 Input Parameters

The GlareGauge inputs the specifications of the array including a single-axis tracking system with a north-south orientation, a maximum tracking angle of 60 degrees, a panel height of 7 feet above ground level, and a resting angle of 5 degrees using the “Shade” backtracking. This analysis also assumed a smooth panel surface with antireflective coating to provide maximum flexibility in module selection. Modeling was then undertaken for the applicable sensitive receptors (i.e., observation points [OPs] from a casual observer such as a hiker, equestrian, etc. [Table 2, Figure 6]).

6.1.4 Results

OPs used a height of 6 feet and route receptors used a height of 4 feet (the average height of passenger cars, trucks, and diesel trucks).

Table 2. Glare Observation Points

Name	Description
OP 1: Residence	RV resort near project area
OP 2: Travel route	SR 78
OP 3: Recreation	Recreation project area
OP 4: Recreation	Juan Bautista de Anza Historic Trail and BLM Road 191
OP 5: Recreation	Campground near project area
OP 6: Recreation	Campground near project area
OP 7: Travel Route	SR 78 and Los Puertecitos Historical Marker
OP 8: Recreation	Recreation near project area
OP 9: Recreation	Recreation near project area
OP 10: Recreation	Recreation near project area
OP 11: Recreation	Recreation near project area
OP 12: Travel Route	U.S. Border Patrol Station
OP 13: Residence	RV resort near project area
OP 14: Residence	Private residence near project area
OP 15: Residence	Private residence near project area
OP 16: Residence	RV resort near project area
OP 17: Recreation	Private residence near project area

¹ See www.forgesolar.com/help/ for assumptions and limitations not listed here.

Name	Description
OP 18: Recreation	Private residence near project area
OP 19: Residence	Private residence near project area
OP 20: Residence	Private residence near project area
Route Receptor 1:	SR 78: Travel route eastbound and westbound

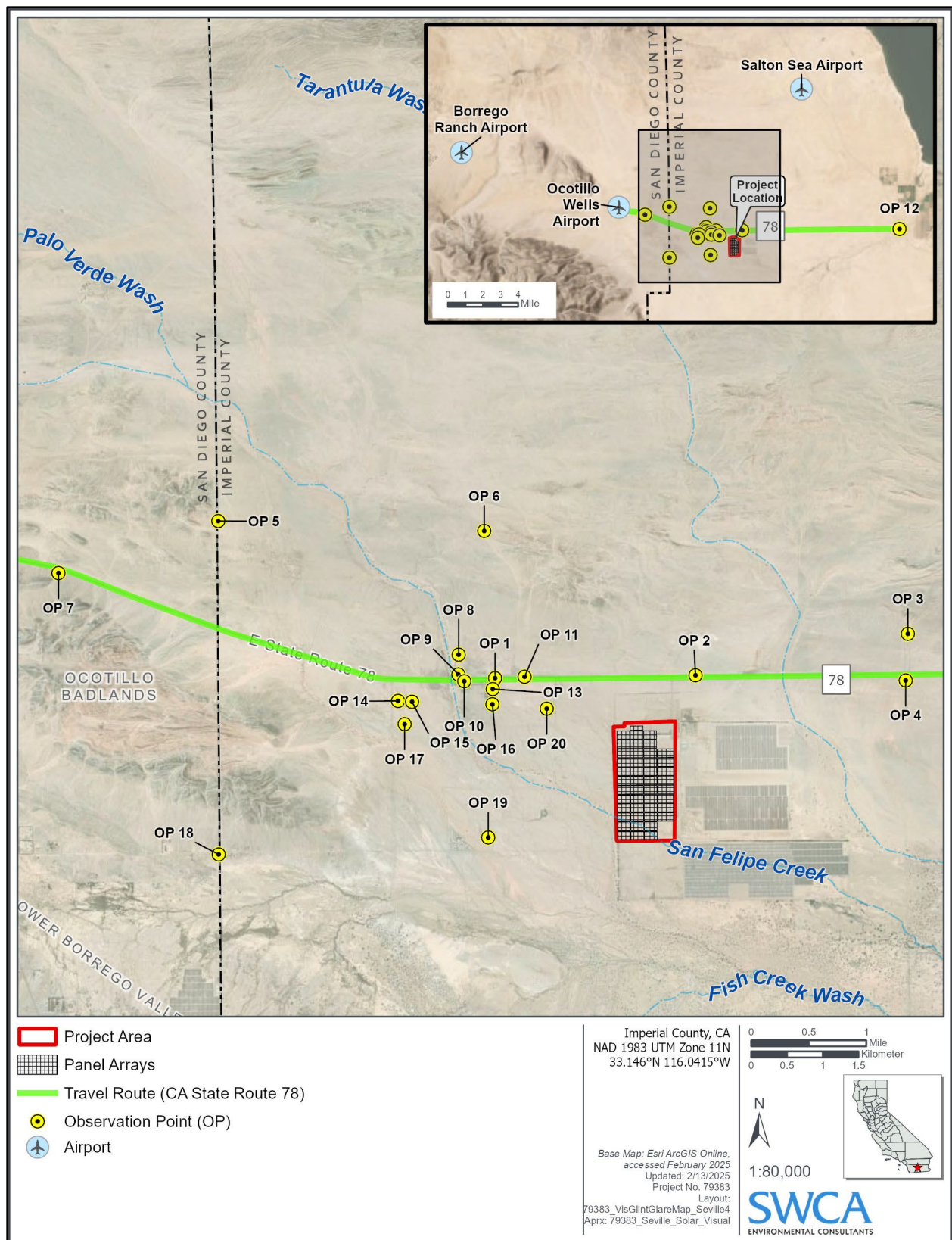


Figure 6. Project area observation points, travel routes, and airports.

6.1.5 *Glare Effects Discussion*

The project would have zero minutes of potential glint or glare at all OPs, travel routes, and airports. No green, yellow, or red glare would be observed based on the model output.

The Solar Glare Hazard Analysis Tool model (Forge Solar 2025) does not account for varying ambient conditions (i.e., cloudy days, precipitation), atmospheric attenuation, screening due to existing topography not located within the defined array layouts, or existing vegetation or structures, including fences or walls. Additionally, the tool does not allow proposed landscaping to be included; therefore, the predicted results from the Solar Glare Hazard Analysis Tool model are considered to be conservative.

6.1.6 *Glare Effects Recommendations*

Measures such as the use of non-reflective materials, finishes, and surface treatments on project components would reduce contrast and glare. Visual (vegetation) barriers are the most effective at mitigating glare from solar arrays when the vegetation is as close to the source as possible. If vegetation is used, native and naturalized plants should be specified to match or complement existing vegetation within the area. Existing vegetation within and surrounding the project area should be maintained and preserved to the greatest extent possible. Preserving existing vegetation will reduce the project's overall impact to the existing health of soils, wildlife, cost, and visual aesthetics.

7 LITERATURE CITED

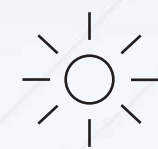
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APPENDIX A

Visual Simulations

Seville 4 Solar Project

Sun and Weather



Sunny

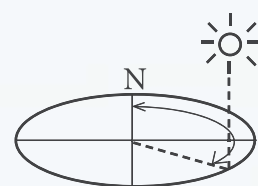
Date:
5-9-23
Photo Time:
10:25 am

Visibility:



Air Quality: Good

Sun Azimuth:



109.63°

Sun Angle: 57°

Lighting Angle on Project:
Side Lit

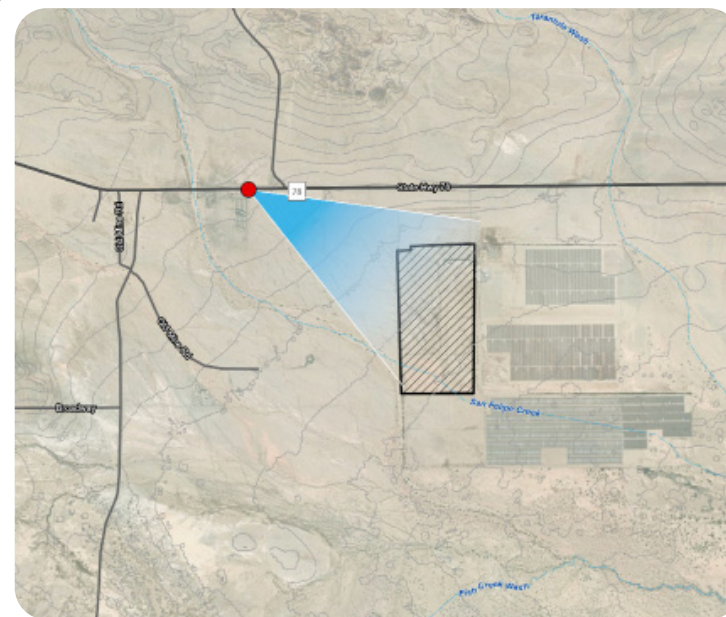
Wind: 10 mph

Cloud Cover: 0 %

Temperature (°F): 85°F

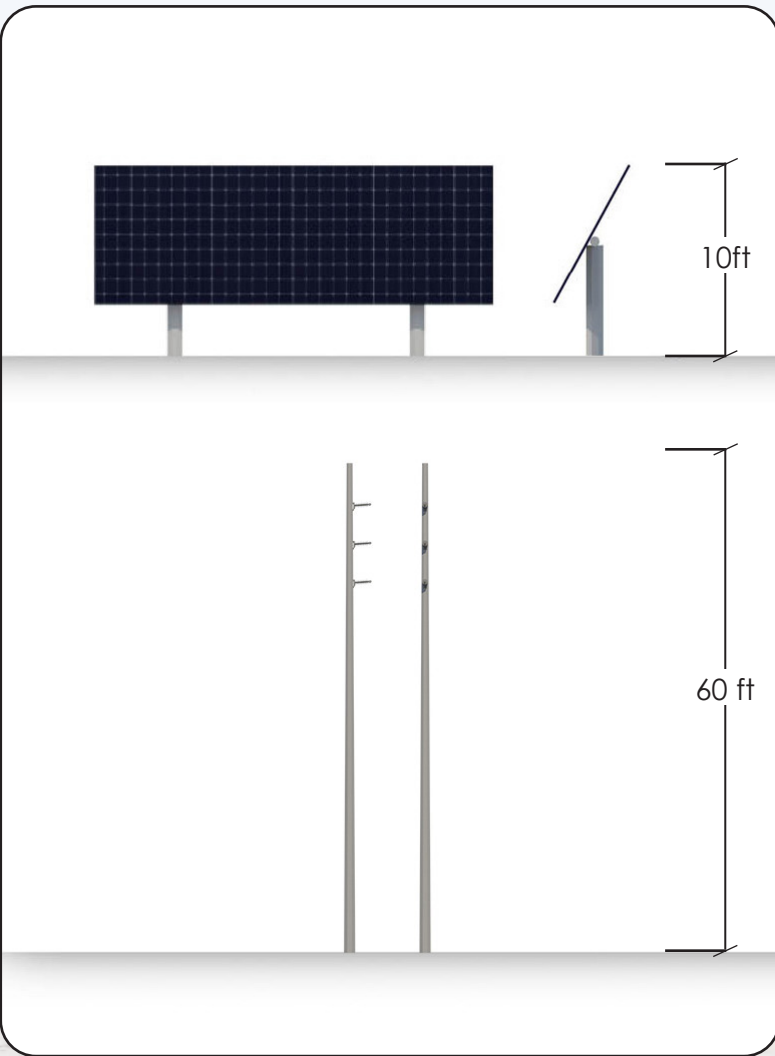
Solar panels are represented
at full tilt (60 degrees) facing
east to reflect AM conditions.

Simulation was prepared using information provided
by client. Locations, colors, and heights may vary
based on final engineering and design.



Approximate Distance to Solar Project:
1.1 miles

Project Location



Structure Diagram



Extent of Single Frame Simulation

KOP 1 - Ocotillo RV
Resort and California
State Route 78

Base Photographic Documentation

Latitude, Longitude (°):

33.12566, -116.039593

Viewpoint Elevation (feet): **35**

Camera Height (meters): **1.5**

Camera Heading (degrees):
120

Camera Make & Model:
Canon EOS 5D Mark IV

Camera Sensor Size (mm):
36 x 24 Full Frame

Crop Factor:
1

Lens Make & Model:
AF-P Nikkor

Lens Focal Length (mm):
50

Image Size (pixels):
6720 x 4480

Single frame simulation approximates 50mm full frame
equivalent.

Viewing Instructions: Printed at 100% the resulting
simulation is 16 inches wide by 10 inches high. At this
size and focal length, the simulation should be viewed
at arms length (24 inches). If viewed on a computer
monitor, scale should be 100%.

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KOP 1: View near Ocotillo RV Resort and California State Route 78 looking southeast - Existing Condition



KOP 1: View near Ocotillo RV Resort and California State Route 78 looking southeast - Simulated Condition

Seville 4 Solar Project

Sun and Weather



Sunny

Date:

5-9-23

Photo Time:

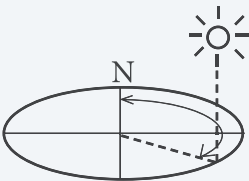
11:20 am

Visibility:



Air Quality: Good

Sun Azimuth:



127.14°

Sun Angle:

67.05°

Lighting Angle on Project:

Side Lit

Wind:

10 mph

Cloud Cover:

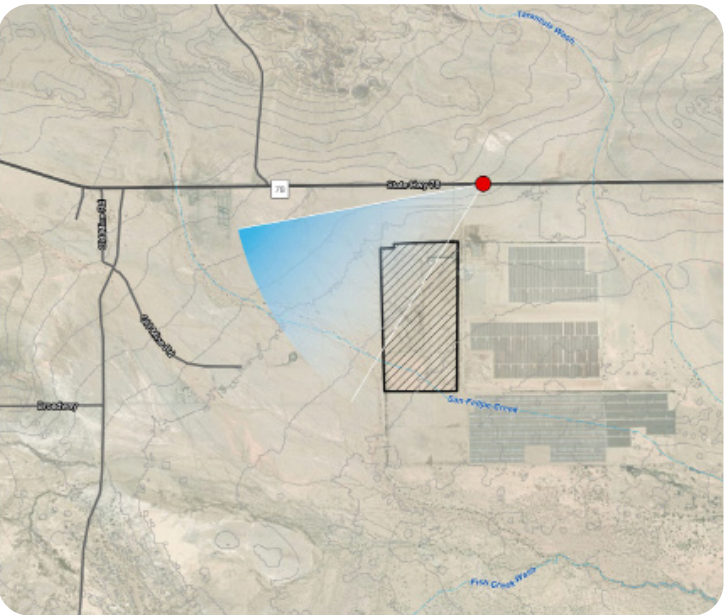
0 %

Temperature (°F):

85°F

Solar panels are represented at full tilt (60 degrees) facing east to reflect AM conditions.

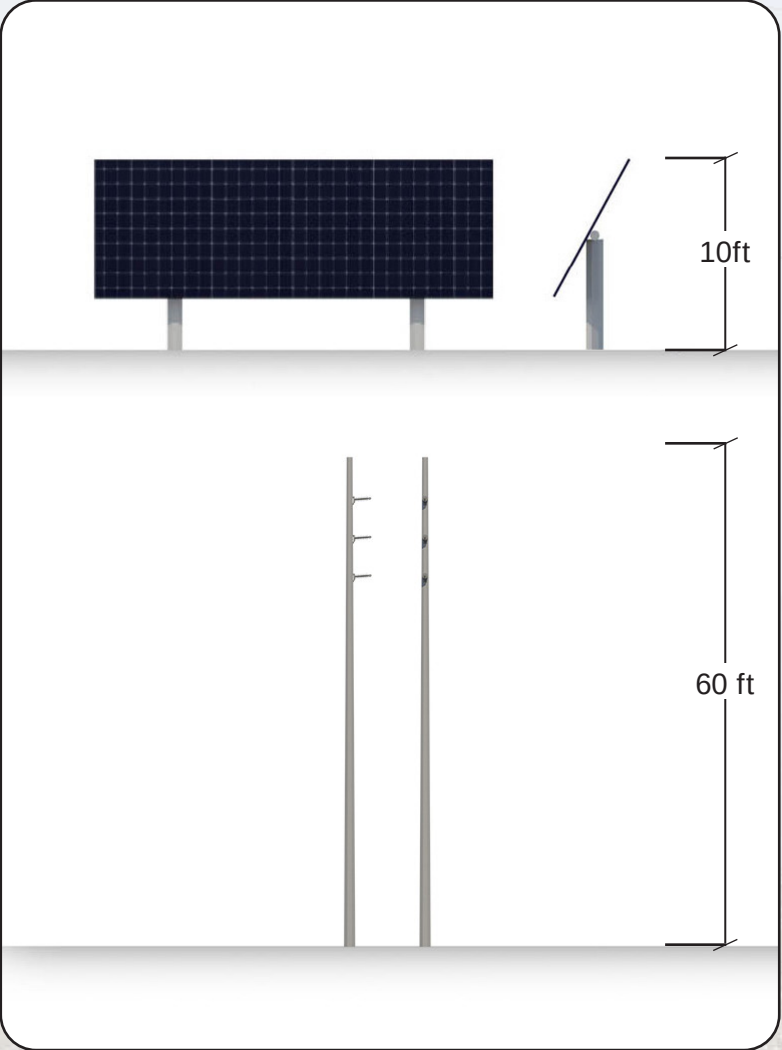
Simulation was prepared using information provided by client. Locations, colors, and heights may vary based on final engineering and design.



Approximate Distance to Solar Project:

0.2 mile

Project Location



Structure Diagram

KOP 2 - California State Route 78

Base Photographic Documentation

Latitude, Longitude (°):

33.125786, -116.009536

Viewpoint Elevation (feet): 15

Camera Height (meters): 1.5

Camera Heading (degrees): 230

Camera Make & Model:

Canon EOS 5D Mark IV

Camera Sensor Size (mm):

36 x 24 Full Frame

Crop Factor:

1

Lens Make & Model:

AF-P Nikkor

Lens Focal Length (mm):

50

Image Size (pixels):

6720 x 4480

Single frame simulation approximates 50mm full frame equivalent.



Extent of Single Frame Simulation

Viewing Instructions: Printed at 100% the resulting simulation is 16 inches wide by 10 inches high. At this size and focal length, the simulation should be viewed at arms length (24 inches). If viewed on a computer monitor, scale should be 100%.

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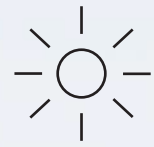


KOP 2: View from California State Route 78 looking southwest - Existing Condition



KOP 2: View from California State Route 78 looking southwest - Simulated Condition

Sun and Weather



Sunny

Date:

5-9-23

Photo Time:

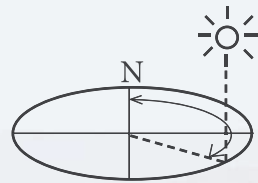
11:30 am

Visibility:



Air Quality: Good

Sun Azimuth:



132.27°

Sun Angle:

68.83°

Lighting Angle on Project:

Side Lit

Wind:

10 mph

Cloud Cover:

0 %

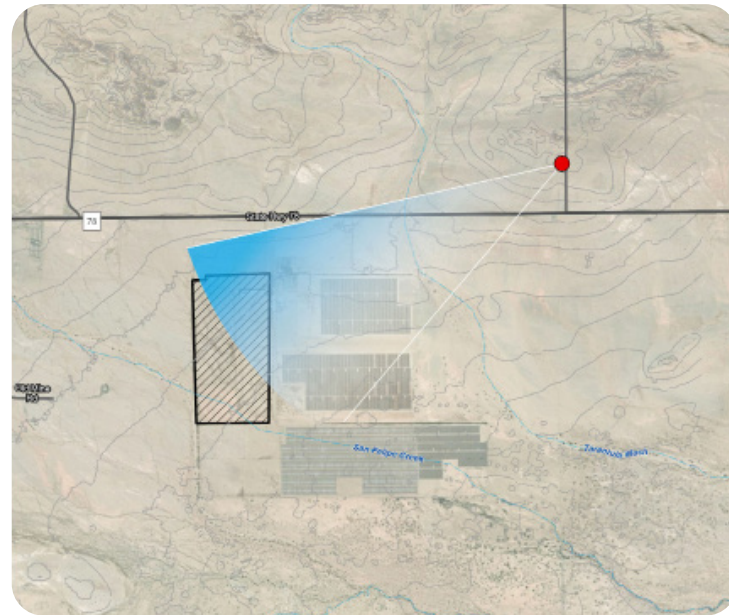
Temperature (°F):

85°F

**Solar panels are represented
at full tilt (60 degrees) facing
east to reflect AM conditions.**

*Simulation was prepared using information provided
by client. Locations, colors, and heights may vary
based on final engineering and design.*

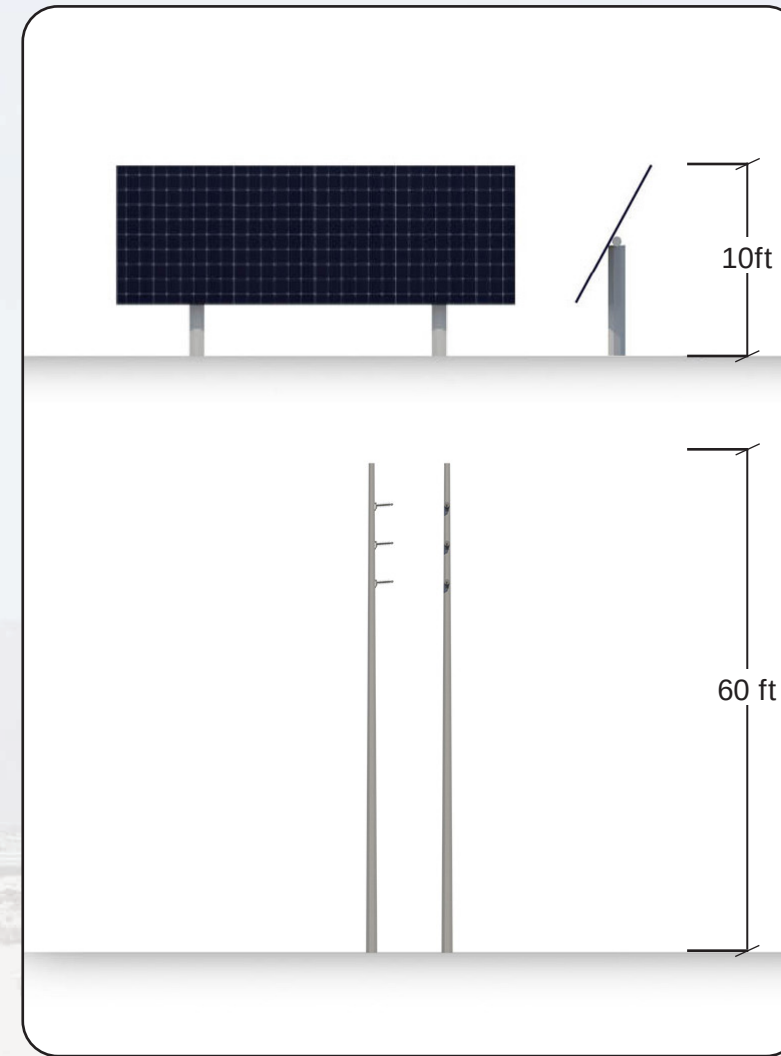
Seville 4 Solar Project



Approximate Distance to Solar Project:

2.1 miles

Project Location



Structure Diagram



KOP 3 - Pole Line Road

Base Photographic Documentation

Latitude, Longitude (°):

33.130755, -115.977646

Viewpoint Elevation (feet): **60**

Camera Height (meters): **1.5**

Camera Heading (degrees):
230

Camera Make & Model:

Canon EOS 5D Mark IV

Camera Sensor Size (mm):

36 x 24 Full Frame

Crop Factor:

1

Lens Make & Model:

AF-P Nikkor

Lens Focal Length (mm):

50

Image Size (pixels):

6720 x 4480

*Single frame simulation approximates 50mm full frame
equivalent.*

*Viewing Instructions: Printed at 100% the resulting
simulation is 16 inches wide by 10 inches high. At this
size and focal length, the simulation should be viewed
at arms length (24 inches). If viewed on a computer
monitor, scale should be 100%.*

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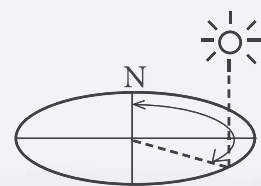
KOP 3: View from Pole Line Road looking southwest - Simulated Condition

Sunny

Date:
5-9-23
Photo Time:
11:40 am

Good Poor

Sun Azimuth:



137.61°

Sun Angle: **70.32°**

Lighting Angle on Project: **Side Lit**

Wind: **10 mph**

Cloud Cover: 0 %

Temperature (°F): **85°F**

Solar panels are represented at full tilt (60 degrees) facing east to reflect AM conditions.

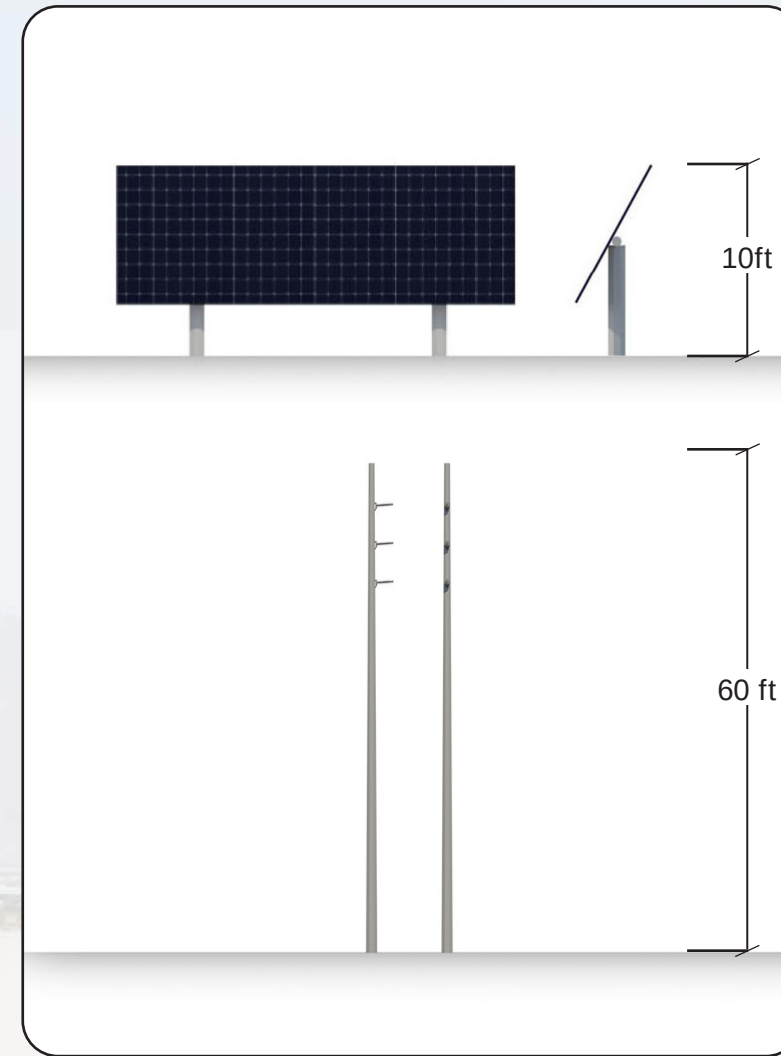
Simulation was prepared using information provided by client. Locations, colors, and heights may vary based on final engineering and design.



Approximate Distance to Solar Project:

2 miles

Project Location



Structure Diagram

Base Photographic Documentation

Latitude, Longitude (°):

33.124887, -115.978043

Viewpoint Elevation (feet): **15**

Camera Height (meters):	1.5
-------------------------	-----

Camera Heading (degrees):	250
---------------------------	------------

Camera Make & Model:	
----------------------	--

Canon EOS 5D Mark IV

Camera Sensor Size (mm):	
--------------------------	--

36 x 24 Full Frame

Crop Factor:

1

Lens Make & Model:

AF-P Nikkor

Lens Focal Length (mm):

50

Image Size (pixels):

6720 x 4480

Single frame simulation approximates 50mm full frame equivalent.

Viewing Instructions: Printed at 100% the resulting simulation is 16 inches wide by 10 inches high. At this size and focal length, the simulation should be viewed at arms length (24 inches). If viewed on a computer monitor, scale should be 100%.

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KOP 4: View from BLM Road 191, approximately 300 feet south of SR 78, looking southwest - Existing Condition



KOP 4: View from BLM Road 191, approximately 300 feet south of SR 78, looking southwest - Simulated Condition

APPENDIX B

Contrast Rating Worksheets

Save

Print

Clear

Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 05/09/2023

District Office: NA

Field Office: NA

Land Use Planning Area: NA

SECTION A. PROJECT INFORMATION

1. Project Name Seville 4 Solar Project	4. KOP Location (T.R.S) T12S R9E S16	5. Location Sketch Approximately 0.5 miles to Project Boundary. See report map.
2. Key Observation Point (KOP) Name KOP 1 - Ocotillo RV Resort and California State Route 78	(Lat. Long) 33.12566, -116.039593	
3. VRM Class at Project Location NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Slightly undulating terrain leading up to low mountains in the distant background.	Generally rounded low to moderate shrubs.	Vertical transmission pole and vertical fence poles in foreground, geometric structures for residences in mid ground.
LINE	Relatively flat ground leading to soft undulating curving and irregular hills.	Small and large irregular line edges of vegetation.	Vertical, straight transmission poles with curved conductor wires. Wireframe style fencing
COLOR	Variations of light khaki to light brown exposed sandy soils.	Light to dark khaki and light green to dark green shrubs.	Wooden, brown transmission and dark fence poles with steel wire.
TEXTURE	Continuous smooth terrain with rough vegetation and fine sandy soils.	Course patches of shrubs.	Course wooden transmission poles and smooth fence poles.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Mostly geometric graded areas with some natural topography.	Geometric cleared area.	Rectangular geometric solar arrays.
LINE	Strait and geometric lines.	Geometric cleared area.	Horizontal line of solar array edge and fenceline
COLOR	Light tan/sand to khaki exposed soils.	Geometric cleared area.	Dark subdued grey to blue black of solar arrays.
TEXTURE	Fine, sand-gravel soils with coarse rock outcroppings more apparent.	Geometric cleared area.	Smooth, continuous, organized, solar facility infrastructure.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☐ Yes ☐ No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM			✓				✓					✓		3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverses side)
	LINE			✓				✓					✓		
	COLOR			✓				✓					✓		
	TEXTURE			✓				✓					✓		
														Evaluator's Names	Date

(Continued on Page 2)

(Form 8400-4)

SECTION D. (Continued)

Comments from item 2.

This KOP is from the Ocotillo RV Resort along California State Route and represents local travelers and recreation users along Leeward Drive. Viewers along this roadway would be traveling at low rates of speed and would be looking primarily east and west with unobstructed to partially obstructed views of the project approximately 0.5 miles away.

Views from this vantage point are panoramic in nature of a naturalistic landscape. The introduction of solar panels would screen or partially screen panoramic views from this vantage point. The solar array would introduce similar form, line, color, and texture to the site and would begin to attract attention from this vantage point. Views would have weak (low) contrast due to the distance to the panels, vegetation, undulating terrain, and relatively short duration of view based on travel speeds.

Additional Mitigating Measures (See item 3)

Mitigation measures such as the use of non-reflective materials, finishes, and surface treatments on project components would reduce contrast and glare. Visual (vegetation) barriers are the most effective at mitigating glare from solar arrays when the vegetation is located as close to the source as possible. If vegetation is used, native and naturalized plants should be specified to match or complement existing vegetation within the area. Existing vegetation within and surrounding the project area should be maintained and preserved to the greatest extent possible. Preserving existing vegetation will reduce the project's overall impact on the existing health of soils, wildlife, cost, and visual aesthetics.

(Form 8400-4, Page 2)

Save Print Clear														
Form 8400-4 (June 2018)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VISUAL CONTRAST RATING WORKSHEET													
Date: 05/09/2023 District Office: NA Field Office: NA Land Use Planning Area: NA														
SECTION A. PROJECT INFORMATION														
1. Project Name Seville 4 Solar Project	4. KOP Location (T.R.S) T12S R9E S14	5. Location Sketch Approximately 0.2 miles to Project Boundary. See report map.												
2. Key Observation Point (KOP) Name KOP 2 - California State Route 78	(Lat. Long) 33.125786, -116.009536													
3. VRM Class at Project Location														
SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION														
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES											
FORM	Slightly undulating terrain leading up to rocky mountains in the background.	Generally rounded low to moderate shrubs.	Vertical transmission monopoles, asphalt road, and geometric structures for residences and existing facility in mid ground.											
LINE	Slightly undulating ground leading to soft curving and irregular hills.	Small and irregular patches of vegetation with occasional line edges for screening.	Vertical, consistent, and straight transmission poles with curved conductor wires. Straight road lines.											
COLOR	Variations of light khaki to light brown exposed sandy soils.	Light to dark khaki and light green to dark green shrubs	Wooden, brown transmission poles, bright white and yellow painted lane lines on asphalt.											
TEX- TURE	Continuous smooth terrain and fine sandy soils.	Course patches of shrubs.	Repetitive course wooden transmission poles.											
SECTION C. PROPOSED ACTIVITY DESCRIPTION														
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES											
FORM	Mostly geometric graded areas with some natural topography.	Geometric cleared area.	Rectangular geometric solar arrays.											
LINE	Strait and geometric lines.	Geometric cleared area.	Horizontal line of solar array edge, horizontal and vertical lines of battery storage facility and substation											
COLOR	Light tan/sand to khaki exposed soils	Geometric cleared area.	Grayish/blue arraydark subdued grey to blue black of solar arrays, light grey earth tones of battery storage, muted reflective											
TEX- TURE	Fine, sand-gravel soils with coarse rock outcroppings more apparent	Geometric cleared area.	Smooth, continuous, organized, solar facility infrastructure											
SECTION D. CONTRAST RATING <u> </u> SHORT TERM ☒ LONG TERM														
1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <u> </u> Yes <u> </u> No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM		✓				✓				✓			3. Additional mitigating measures recommended ☒ Yes <u> </u> No (Explain on reverses side) Evaluator's Names _____ Date _____
	LINE		✓				✓				✓			
	COLOR		✓				✓				✓			
	TEXTURE		✓				✓				✓			

SECTION D. (Continued)

Comments from item 2.

This KOP is from California State Route 78 and represents travelers along the highway. Viewers along this roadway would be traveling at high rates of speed and would be looking primarily east and west with partially obstructed views of the project approximately 0.2 mile away.

Views from this vantage point are panoramic in nature of a naturalistic landscape. The introduction of solar panels would screen or partially screen panoramic views from this vantage point. The solar array would introduce similar form, line, color, and texture to the site and would begin to attract attention from this vantage point. Views would have moderate (medium) contrast due to the vegetation, undulating terrain, and relatively short duration of view based on travel speeds.

Additional Mitigating Measures (See item 3)

Mitigation measures such as the use of non-reflective materials, finishes, and surface treatments on project components would reduce contrast and glare. Visual (vegetation) barriers are the most effective at mitigating glare from solar arrays when the vegetation is located as close to the source as possible. If vegetation is used, native and naturalized plants should be specified to match or complement existing vegetation within the area. Existing vegetation within and surrounding the project area should be maintained and preserved to the greatest extent possible. Preserving existing vegetation will reduce the project's overall impact on the existing health of soils, wildlife, cost, and visual aesthetics.

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Form 8400-4
(June 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 05/09/2023

District Office: NA

Field Office: NA

Land Use Planning Area: NA

SECTION A. PROJECT INFORMATION

1. Project Name Seville 4 Solar Project	4. KOP Location (T.R.S) T12S R9E S13/T12S R10E S18	5. Location Sketch Approximately 2.1 miles to Project Boundary. See report map.
2. Key Observation Point (KOP) Name KOP 3 - Pole Line Road		
3. VRM Class at Project Location	(Lat. Long) 33.130755, -115.977646	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Undulating terrain leading up to mountains in the background.	Generally rounded low to moderate shrubs.	Vertical transmission monopoles, geometric structures for residences and existing facility.
LINE	Soft undulating curving and irregular hills and ridgeline.	Small and irregular patches of vegetation with occasional line edges for screening.	Vertical, straight transmission structures with curved conductor wires. Horizontal lines of existing solar facility.
COLOR	Variations of light khaki to light brown exposed sandy soils. Dark brown hills.	Light to dark khaki and green to dark green shrubs.	Wooden, brown transmission poles. Dark subdued grey to blue black of solar arrays.
TEXTURE	Continuous smooth terrain and fine sandy soils.	Course patches of shrubs.	Repetitive transmission structures. Smooth and continuous solar arrays.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Mostly geometric graded areas with some natural topography.	Geometric cleared area.	Rectangular geometric solar arrays.
LINE	Strait and geometric lines.	Geometric cleared area.	Horizontal line of solar array edge, horizontal and vertical lines of battery storage facility
COLOR	Light tan/sand to khaki exposed soils	Geometric cleared area.	Grayish/blue arraydark subdued grey to blue black of solar arrays, light grey earth tones of battery storage, muted reflective
TEXTURE	Fine, sand-gravel soils with coarse rock outcroppings more apparent	Geometric cleared area.	Smooth, continuous, organized, solar facility infrastructure

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☐ Yes ☐ No (Explain on reverses side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE			
ELEMENTS	FORM			✓				✓					✓		3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverses side)	
	LINE			✓				✓					✓			
	COLOR			✓				✓					✓			
	TEXTURE			✓				✓					✓			
															Evaluator's Names	Date

(Continued on Page 2)

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SECTION D. (Continued)

Comments from item 2.

This KOP is from Pole Line Road represents recreation users along the road. Viewers along this roadway would be traveling at low rates of speed and would be looking primarily north or south towards the direction of travel with partially obstructed views of the project approximately 2.1 miles away.

Views from this vantage point are panoramic in nature of a naturalistic landscape. The introduction of solar panels would screen or partially screen panoramic views from this vantage point. The solar array would introduce similar form, line, color, and texture to the site and would begin to attract attention vantage point. Views would have weak (low) contrast due to the distance to the panels, vegetation, undulating terrain, and relatively short duration of view based on travel speeds.

Additional Mitigating Measures (See item 3)

Mitigation measures such as the use of non-reflective materials, finishes, and surface treatments on project components would reduce contrast and glare. Visual (vegetation) barriers are the most effective at mitigating glare from solar arrays when the vegetation is located as close to the source as possible. If vegetation is used, native and naturalized plants should be specified to match or complement existing vegetation within the area. Existing vegetation within and surrounding the project area should be maintained and preserved to the greatest extent possible. Preserving existing vegetation will reduce the project's overall impact on the existing health of soils, wildlife, cost, and visual aesthetics.

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Save Print Clear Form 8400-4 (June 2018) UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VISUAL CONTRAST RATING WORKSHEET Date: 05/09/2023 District Office: NA Field Office: NA Land Use Planning Area: NA														
SECTION A. PROJECT INFORMATION														
1. Project Name Seville 4 Solar Project		4. KOP Location (T.R.S) T12S R10E S18												
2. Key Observation Point (KOP) Name KOP 4 - Juan Batista de Anza National Historic Trail		5. Location Sketch Approximately 2 miles to Project Boundary. See report map.												
3. VRM Class at Project Location		(Lat. Long) 33.124887, -115.978043												
SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION														
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES											
FORM	Slightly undulating terrain leading up to low mountains in the distant background.	Generally rounded low to moderate shrubs.	Vertical transmission monopoles, geometric structures for residences and existing facility.											
LINE	Slightly undulating ground leading to soft curving and irregular hills.	Small and irregular patches of vegetation with occasional line edges for screening.	Vertical, straight transmission structures with curved conductor wires. Horizontal lines of existing solar facility.											
COLOR	Variations of light khaki exposed sandy soils. Dark brown hills.	Light to dark khaki and green to dark green shrubs.	Wooden, brown transmission poles. Dark subdued grey to blue black of solar arrays.											
TEXTURE	Continuous smooth terrain with rough vegetation and fine sandy soils.	Course patches of shrubs.	Repetitive transmission structures. Smooth and continuous solar arrays.											
SECTION C. PROPOSED ACTIVITY DESCRIPTION														
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES											
FORM	Mostly geometric graded areas with some natural topography.	Geometric cleared area.	Rectangular geometric solar arrays.											
LINE	Strait and geometric lines.	Geometric cleared area.	Horizontal line of solar array edge, horizontal and vertical lines of battery storage facility											
COLOR	Light tan/sand to khaki exposed soils	Geometric cleared area.	Grayish/blue array dark subdued grey to blue black of solar arrays, light grey earth tones of battery storage, muted reflective											
TEXTURE	Fine, sand-gravel soils with coarse rock outcroppings more apparent	Geometric cleared area.	Smooth, continuous, organized, solar facility infrastructure											
SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM														
1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☐ Yes ☐ No (Explain on reverse side) 3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side) Evaluator's Names _____ Date _____
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
ELEMENTS	FORM	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
	LINE			✓				✓				✓		
	COLOR			✓				✓				✓		
	TEXTURE			✓				✓				✓		

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(Form 8400-4)

SECTION D. (Continued)

Comments from item 2.

This KOP is from Juan Batista de Anza Historic Trail and BLM 191 and represents recreation users along. From this location, Viewers along this roadway would be traveling at low rates of speed and would be looking primarily north and south towards the direction of travel. Views to the west toward the project would be fully to partially obstructed views of the project approximately 2 miles away.

Views from this vantage point are panoramic in nature of a naturalistic landscape. The introduction of solar panels would screen or partially screen panoramic views from this vantage point. The solar array would introduce similar form, line, color, and texture to the site and would begin to attract attention from this vantage point. Views would have weak (low) contrast due to the distance to the panels, vegetation, undulating terrain, and relatively short duration of view based on recreation users.

Additional Mitigating Measures (See item 3)

Mitigation measures such as the use of non-reflective materials, finishes, and surface treatments on project components would reduce contrast and glare. Visual (vegetation) barriers are the most effective at mitigating glare from solar arrays when the vegetation is located as close to the source as possible. If vegetation is used, native and naturalized plants should be specified to match or complement existing vegetation within the area. Existing vegetation within and surrounding the project area should be maintained and preserved to the greatest extent possible. Preserving existing vegetation will reduce the project's overall impact on the existing health of soils, wildlife, cost, and visual aesthetics.

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