SECTION 4.0

Environmental Consequences

4.0 ENVIRONMENTAL CONSEQUENCES

Introduction

This section describes the environmental consequences that would result from the development of the Proposed Action alternatives for each environmental resource topic. This section describes the potential environmental impacts of the Proposed Action and each alternative. Any recommended measures to reduce these adverse impacts are also presented in this section. The cumulative effects of the Proposed Action and each alternative are evaluated in Chapter 5 of this EIR/EA.

This EIR/EA is a joint federal/state document prepared to comply with the requirements of both NEPA and CEQA. NEPA and CEQA requirements are similar but differ in certain details. BLM guidance for complying with NEPA require that the BLM manager determine whether the project would have a significant impact on the quality of the human environment. Therefore, the significance of an impact under NEPA is typically not presented in the NEPA document, all discussion of significance that may occur in this document is relevant only to the CEQA requirement. All significant determinations are made solely for the compliance with CEQA and any occurrences that are not so stated should be viewed only to correspond with those requirements. The NEPA document is an analysis tool the agency decision-maker uses to formulate his/her decision. BLM's decision, and rationale for its selection, is recorded in the decision document, as well as a written conclusion to identify whether the decision's impacts are significant.

In contrast, CEQA requires an EIR to identify the significant environmental effects of the project. An EIR will typically present criteria which are specifically used to determine whether or not an adverse impact is significant under CEQA. An EIR must also describe feasible mitigation measures which could minimize each significant adverse impact.

To accommodate this difference, the Environmental Consequences subsections of this EIR/EA each contains a subsection identified as "*CEQA Significance Criteria/NEPA Indicators*." These criteria are used in this EIR/EA to determine the significance under CEQA of each identified effect. The NEPA Indicators are utilized in the document to represent the context of impacts by the Proposed Action. They provide a background for the analysis and will help the reader to put the impacts in context for each resource. Additionally, the Indicators provide quantitative and qualitative measures with which to review the intensity of the impacts. These two components will assist the decision maker in making their findings. A "NEPA Environmental Assessment Summary" can be found at the end of each resource section.

Feasible mitigation measures which could minimize impacts determined significant under CEQA are specifically identified in this EIR/EA as "*mitigation measures*." This EIR/EA also states whether the impact determined significant under CEQA remains significant after implementation of the mitigation measure(s). The analysis presented in this section has been prepared in accordance with CEQ's NEPA Regulations Section 1502.16 and CEQA. The direct environmental effects of each alternative are provided under the resource headings described in Section 3.0. Section 6.0 of this EIR/EA also provides analysis of growth-inducing, cumulative, indirect, and unavoidable adverse effects.

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4.1 Visual Resources

Visual resources refer to objects (man-made and natural, moving and stationary) and features (e.g., landforms and water bodies) that are visible on a landscape. These resources contribute to the scenic or visual quality of the landscape, that is, the visual appeal of the landscape.

CEQA Significance Criteria

For purposes of the EIR/EA, a Visual Resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Have a substantial effect on a scenic vista;*

Indicator 2: *Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;*

Indicator 3: *Substantially degrade the existing visual character or quality of the site and its surroundings; and/or,*

Indicator 4: *Create a new source of substantial light or glare which would affect day or nighttime views in the area.*

NEPA Methodology

The BLM uses the Visual Resources Management (VRM) System to manage public lands in a manner that will protect the quality of the visual (scenic) values in accordance with Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 (FLPMA). The BLM incorporates the VRM System into its Resource Management Plan (RMP) by inventorying and classifying the Plan area's visual resources to manage and protect scenic resources on the public lands. As discussed in section 3.1, the CDCA has not adopted VRMs; in accordance with BLM policy, an Interim Class III VRM was established for the Proposed Action (BLM, 2010b).

Impacts under NEPA are analyzed in terms of context and intensity. Context means that the action must be analyzed in several contexts, such as society, the affected region, affected interests, and locale. Intensity refers to the severity of impact, and includes a variety of factors to be considered (40 CFR §1508.27).

Some of the intensity factors potentially relevant to visual impacts include unique characteristics of the geographic area such as proximity to historic or cultural resources, or park lands, the degree of controversy, the degree of uncertainty about possible effects, the degree to which an action may establish a precedent for future actions, and the potential to contribute to cumulative impacts. Cumulative impacts to visual resources are discussed in Chapter 5-Cumulative Impacts of this EIR/EA.

In addition, evaluation of the Proposed Action's impacts on Visual Resources issues for NEPA purposes was framed using the above mentioned CEQA indicators, because those indicators capture a range of potential Visual Resources impacts that could occur as a result of the Proposed Action and Alternatives. Additional impacts are discussed in the analysis below as identified.

4.1.1 CEQA Environmental Analysis

Analysis of impacts to visual character is subjective by nature, because the qualities that create an aesthetically pleasing setting will vary from person to person. For the purposes of this analysis, the site and its vicinity have been visited in order to consider the existing community character and to determine the Proposed Action's consistency with the surrounding area and with applicable General Plan goals and policies. Site photographs presented in this section depict the existing visual character of the project site and have contributed to the visual analysis of the project.

As discussed in Section 3.1, five key observation points (KOPs) of the project site were identified during a visibility analysis conducted by BRG Consulting, Inc., on June 16, 2010. As depicted on Figure 3.1-1, of these five KOPs, three were identified as KOPs that provide potential viewpoints of the adjacent BLM lands and the proposed transmission line corridor on BLM lands (KOPs 1, 2, and 3), which are along Dunaway Road and I-8. In addition KOPs 3, 4, and 5 provide potential viewpoints of the solar energy facility site located within Imperial County private lands, which are all located along I-8.

4.1.1.1 Proposed Action

A. Scenic Vista

Indicator 1: Have a substantial effect on a scenic vista.

The project site is not located in a scenic vista, nor does the County of Imperial General Plan designate the project site as an important visual resource (County of Imperial, 2008). None of the roadways abutting or surrounding the project site are designated or proposed scenic roadways. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are identified as designated scenic vistas. Therefore, development of the project site with the Proposed Action would not have a substantial direct or indirect effect on a scenic vista under CEQA. No significant impact under CEQA to this issue area is anticipated.

B. Scenic Resources and State Scenic Highway

Indicator 2: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

There are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the project site. In addition, there are no designated scenic highways surrounding the project site nor is the project site visible from any designated scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza

National Historic Trail is located approximately 3.2 miles northeast of the Proposed Action. Views from this trail have a potential to be identified as a scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

Indicator 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

The Proposed Action consists of three primary components: 1) the construction and operation of the Imperial Solar Energy Center West solar energy facility on existing agriculture land; 2) the construction and operation of the electrical transmission lines on adjacent BLM lands; and, 3) proposed construction of an access road that traverses within the proposed transmission line right-of-way on BLM lands.

Solar Energy Facility Site

Currently, the portion of the project site proposed for the solar energy facility is vacant and fallow land, which was previously used for agricultural production, with no existing visual resources located on the site. Construction of the Proposed Action would alter the existing visual character of the area and its surroundings as a result of converting land zoned for agricultural use for the construction of a solar energy facility. The project site would be visually disrupted in the short-term during construction activities. However, because the site is relatively flat and substantial grading is not required, and construction activities would be temporary, the visual character of the site would not be substantially degraded in the short-term. Furthermore, as discussed in Section 3.1 of this EIR/EA, based on a visual analysis conducted by BRG Consulting, Inc., while the project site is readily visible from surrounding roads and KOPs, these KOPs are not considered significant visual resources and no individuals are present on surrounding lands to view the site. Therefore, in the short-term no impact to the visual character or quality is anticipated.

As discussed in Chapter 2.0 of this EIR/EA, two types of solar module technology are being considered for use on the project site. These technologies are "concentrating photovoltaic" (CPV) solar modules and "photovoltaic" (PV) solar modules. The major generation equipment that will be installed on the project site includes solar modules; a panel racking and foundation design; inverter and transformer stations; an electrical collection system; and, a switchyard. The facility would also include safety and security equipment and operations and maintenance facilities. The entire solar facility site would be enclosed by a 6-foot chain link security fence; however, this fence would not block or screen any views of the site. The site is completely visible along the I-8, as the freeway is elevated above the site.

Under the PV option, the module arrays will be mounted to racks that are planned to be supported by driven piles, drilled and grouted piles, or ballasted piles. The racks will be secured at a fixed tilt of 20° by 25° from horizontal facing a southerly direction or, alternatively, the project will utilize a tracker system. The solar array field will be arranged in groups called "blocks." Figures 2-7 through 2-9 show a typical array block design.

Under the CPV option, each CPV module measures 2' wide x 4' long x 4" deep and weighs 22 lbs. The modules are approximately 30 feet high. Inside each module are 135 cells connected in a series providing a nominal power output of 153 watts (W) per module or 1.83 kW per supermodule. Twelve (12) CPV modules collectively comprise a supermodule that is 8' wide x 16' long. twelve supermodules are mounted atop a two-axis elevation-over-azimuth tracker that follows the sun's daily trajectory across the sky to provide the highest possible level of energy production – particularly in the high-energy demand afternoon hours. The array field will be arranged in groups called "blocks." A typical array block design/simulation is shown on page 2-8 The CPV technology uses a Fresnel lens to magnify the solar energy and concentrate energy on a small highly efficient multi-junction solar cell. For this technology to work, the panel must be pointed towards the sun. Potential glare is eliminated by keeping the panels pointed towards the sun.

The project inverters and transformers, as well as other electrical equipment, will be approximately 3.5 feet in width and 12 feet in length by 8 feet in height. The dimensions of the transformers are 8 feet in width by 8 feet in length by 6 feet in height. Figures 2-10 through 2-12 depict typical solar inverter/transformer stations. Multiple transformers are connected together, and deliver AC power along a cable underground trench to electrical risers located throughout the site. From the risers, the power is delivered to the internal overhead collection lines and on to the on-site project switchyard. The on-site overhead lines would be mounted on wooden poles approximately 60 feet tall and spaced approximately 160 feet apart. Alternatively, the project may be constructed with an underground collection system. Figures 2-13 and 2-14 provide a depiction of a typical switchyard layout and elevation. These features would be visible from surrounding roadways, and in particular the I-8 freeway that traverses the site.

An approximately 10,000 square foot Operations and Maintenance building with a maximum height of 25 feet tall will be located on the project site adjacent to the Solar Energy Facility, within the switchyard area (as depicted as a yellow box south of the I-8 on Figure 2-6 of this EIR/EA). The solar energy facility would be readily visible from I-8 because the interstate is elevated above the project site. Although aesthetics can be subjective for traveling motorists, a view of a large-scale solar array energy facility can be a visual point of interest as such facilities are not common in many areas of the country. Figures 4.1-1a and 4.1-1b provide a visual simulation of a panoramic view of the project site from KOP #5 for the CPV and PV panel modules, respectively. Figures 4.1-1a, 4.1-3a, and 4.1-4a show the CPV technology which uses taller and larger panel blocks than the typical PV installations depicted on Figures 4.1-1b, 4.1-3b, and 4.1-4b. It is important to remember that typical fixed tilt PV installations are installed at 20 degree to 25 degree tilt angles facing South in the Northern Hemisphere. This angle maximizes the panel's ability to capture the sun's energy. While the CPV technology implements a dual axis tracker, it is important to understand that the tracker will follow the sun which is overhead most of the day. The dual axis tracker CPV technology will be pointed in the same direction as the fixed tilt panels for most of the day (up at a 20-25 degree angle facing southerly and towards the sun).

Existing setting from I-8 looking west towards the project site

Visual Panoramic Simulation - View of Solar Energy Facility Site CPV panels and on-site transmission line towers

SOURCE: BRG Consulting, Inc., 2010

7/12/11

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Imperial Solar Energy Center West

CPV - Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-1a

D:\projects\1008 Imperial Solar West\Final EIR_EA\Chapter 4\Section 1\Figure 4.1-1a Visual Simulation.ai

Existing setting from I-8 looking west towards the project site

Visual Panoramic Simulation - View of Solar Energy Facility Site PV panels and on-site transmission line towers

SOURCE: BRG Consulting, Inc., 2010

7/11/11

BRG CONSULTING, INC.

Imperial Solar Energy Center West

PV - Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-1b

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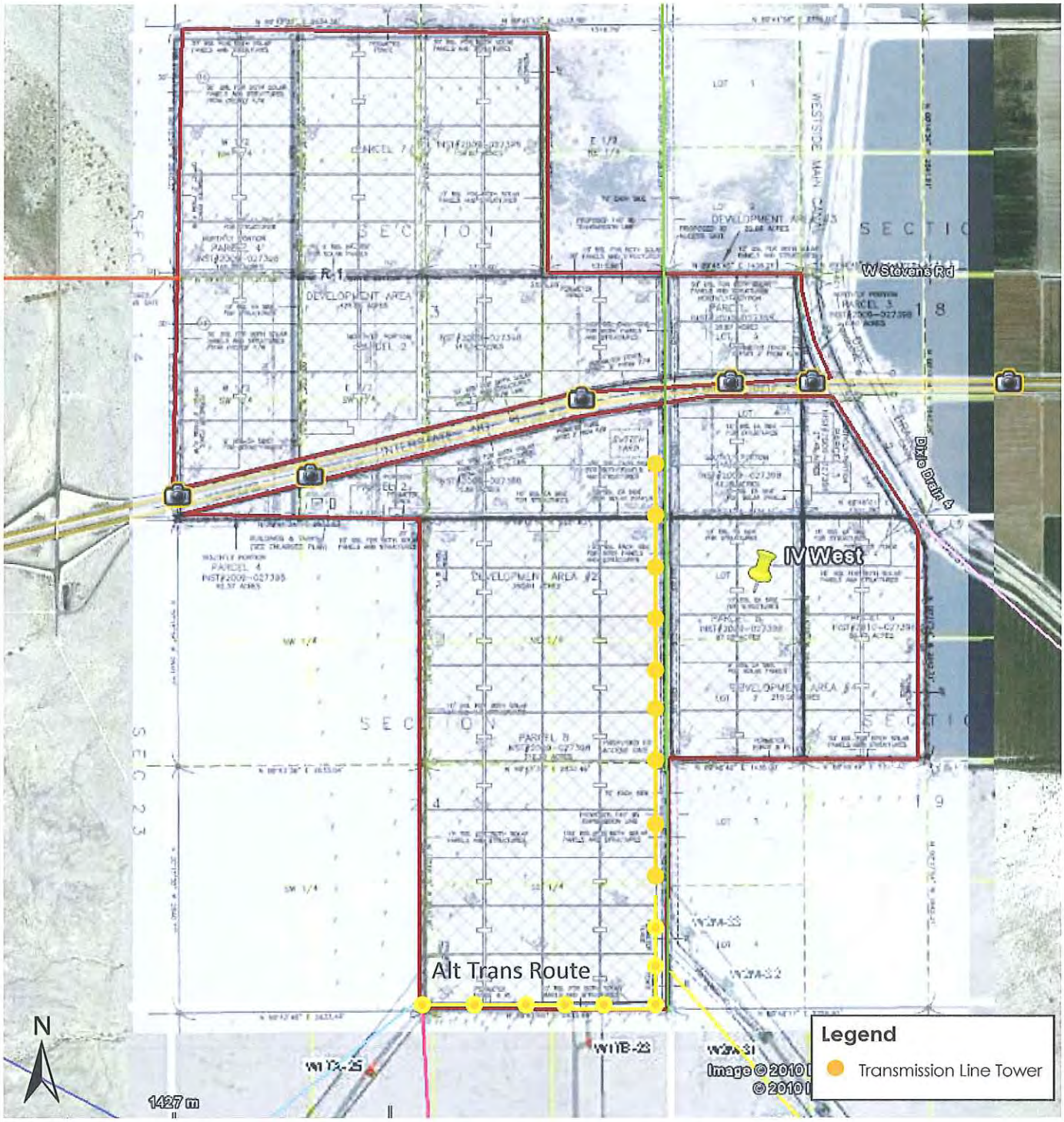


SOURCE: BRG Consulting, Inc., 2010

10/21/10

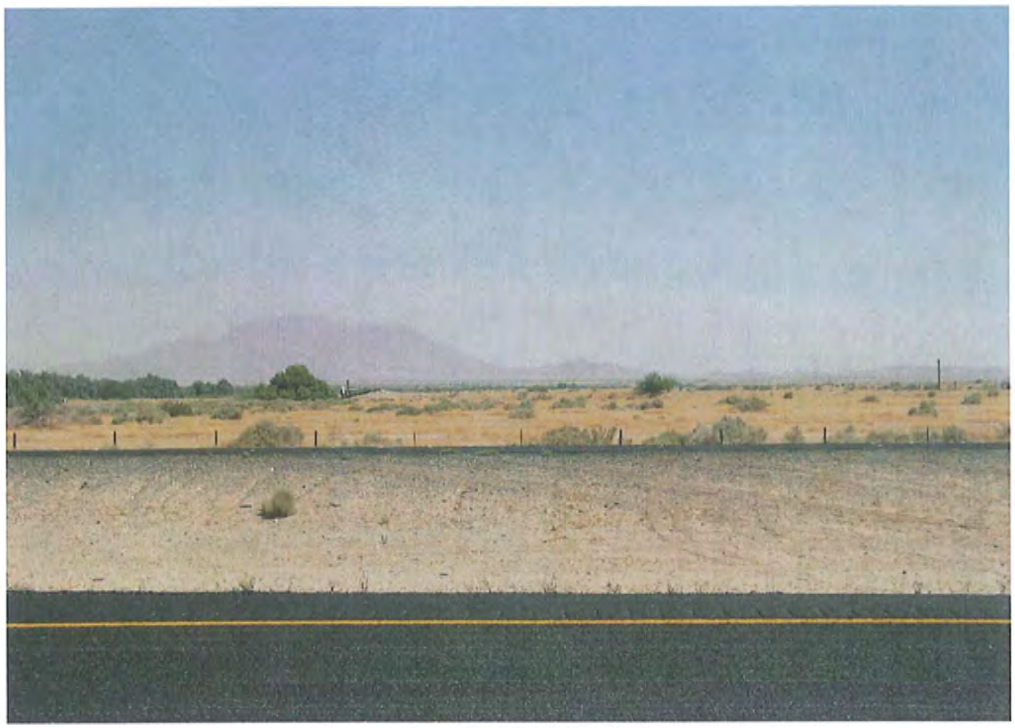
BRG CONSULTING, INC.

Imperial Solar Energy Center West

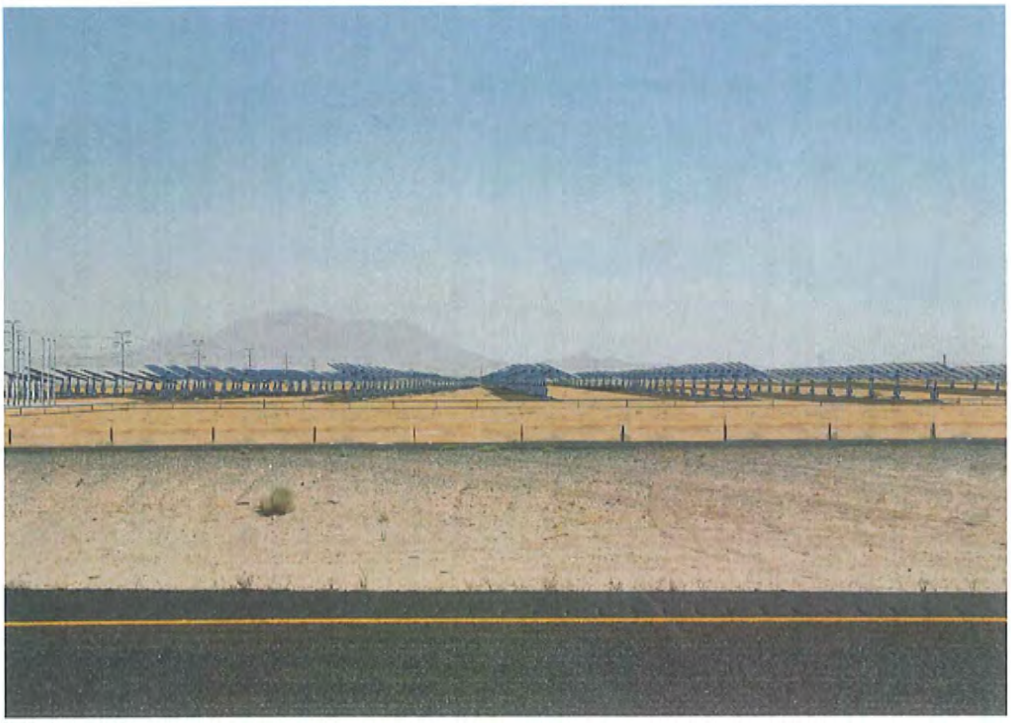
Conceptual Transmission Line Tower Locations on Solar Energy Facility Site

FIGURE 4.1-2

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-2 Conceptual Transmission Line Tower.ai



Existing setting of Solar Energy Facility Site



Visual Simulation - View of Solar Energy Facility Site CPV panels

SOURCE: BRG Consulting, Inc., 2010

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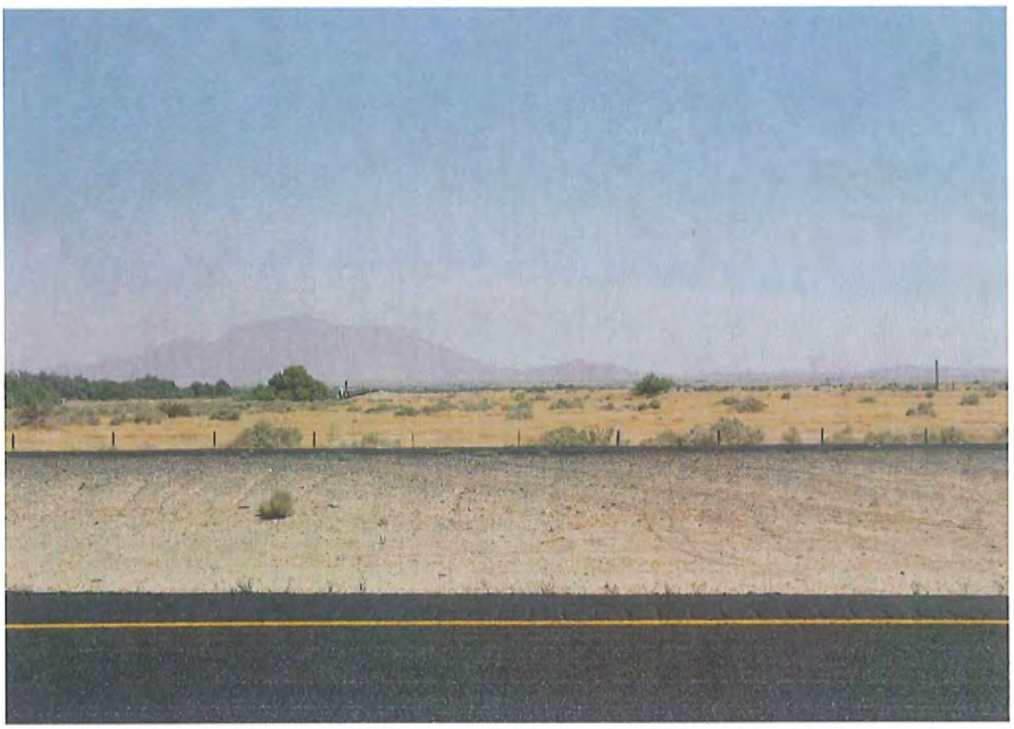
BRG CONSULTING, INC.

Imperial Solar Energy Center West

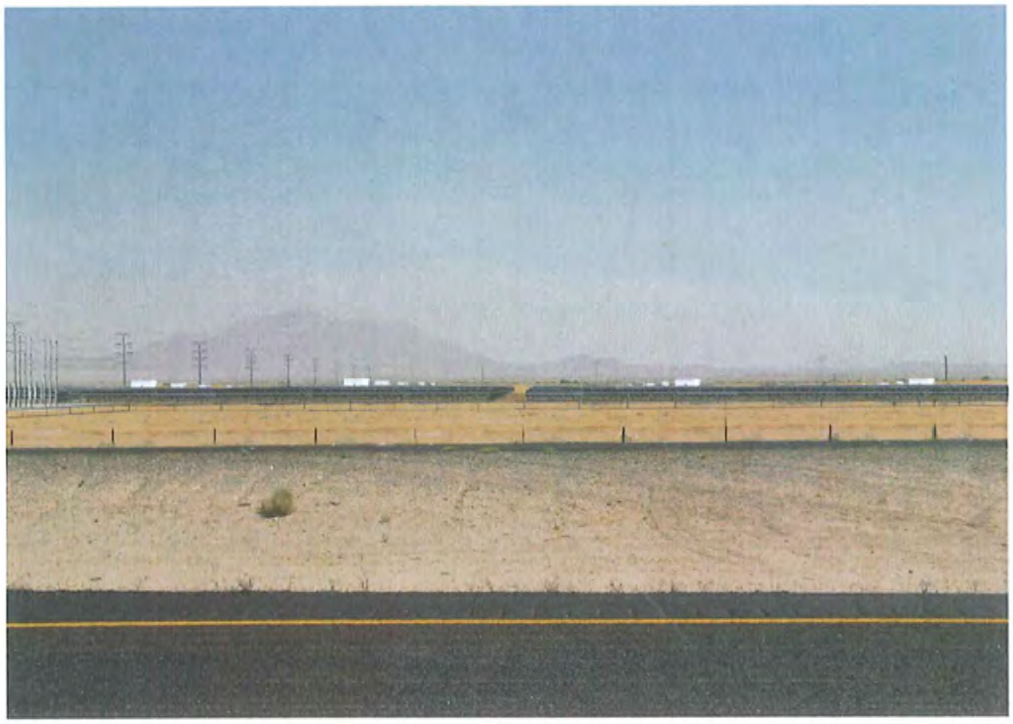
CPV - Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-3a

D:\projects\1008 Imperial Solar West\Final EIR_EA\Chapter 4\Section 1\Figure 4.1-3 aVisual Simulation.ai



Existing setting of Solar Energy Facility Site



Visual Simulation - View of Solar Energy Facility Site PV panels

SOURCE: BRG Consulting, Inc., 2011

7/12/11

BRG CONSULTING, INC.

Imperial Solar Energy Center West

PV - Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-3b

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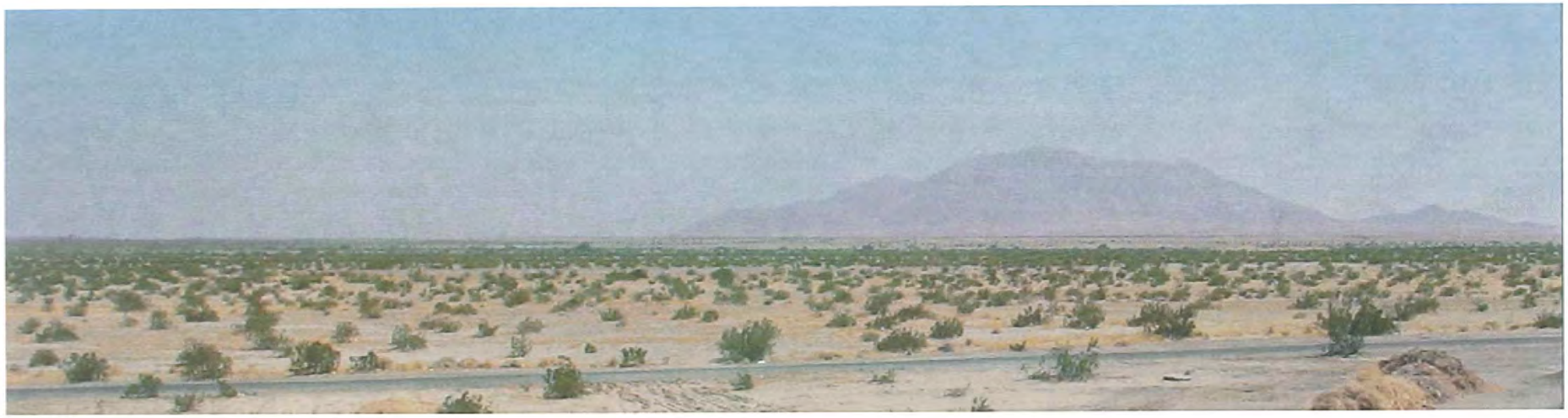
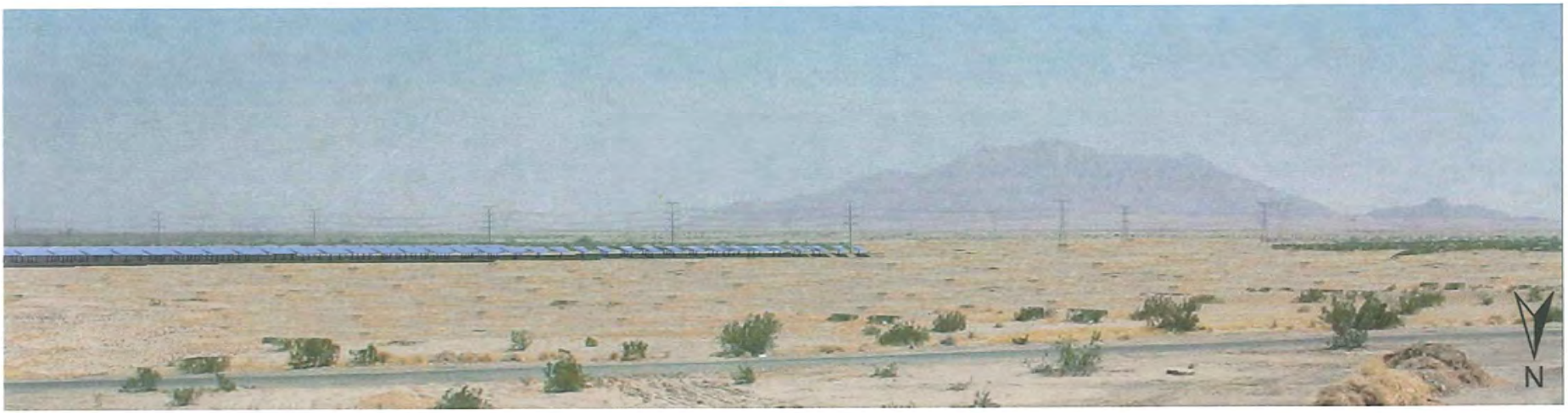


Existing setting of BLM Lands and Solar Energy Facility Site



Visual Simulation - View of Transmission Line Corridor on BLM Lands and Solar CPV Panels on Solar Energy Facility Site

SOURCE: BRG Consulting, Inc., 2010

7/11/11

BRG CONSULTING, INC.

Imperial Solar Energy Center West

CPV - Visual Simulation of Proposed Transmission Line Corridor on BLM Lands

FIGURE 4.1-4a

D:\projects\1008 Imperial Solar West\Final EIR_EA\Chapter 4\Section 1\Figure 4.1-4a Visual Simulation.ai

Existing setting of BLM Lands and Solar Energy Facility Site

Visual Simulation - View of Transmission Line Corridor on BLM Lands and Solar PV Panels on Solar Energy Facility Site

SOURCE: BRG Consulting, Inc., 2010

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BRG CONSULTING, INC.

Imperial Solar Energy Center West

PV - Visual Simulation of Proposed Transmission Line Corridor on BLM Lands

FIGURE 4.1-4b

D:\projects\1008 Imperial Solar West\Final EIR_EA\Chapter 4\Section 1\Figure 4.1-4b Visual Simulation.ai

As depicted on Figure 4.1-2, the 230kV transmission line towers start a few hundred feet South of I-8 and would be readily visible from I-8 looking South and three KOPs. Additionally, the 34.5kV line crossing I-8 would be visible; however, IID has installed many distribution lines across I-8 and motorists have become used to the random powerline crossing the Interstate. These random small powerline crossings fit with the rural nature of the land because the farmers need power to water pumps and equipment which are otherwise in the middle of open spaces. The 20-foot differential from what is allowed under the existing zoning and for the transmission towers on the solar energy facility site is visually insignificant and these towers would be the same height as existing 230kV facilities within the general area and shorter than SDG&E's 500kV towers that are within the same viewshed.

Based on preliminary engineering, Figure 4.1-2 depicts the approximate location of the transmission line towers that would be constructed under the County's jurisdiction within the solar energy facility site. The transmission line towers would run through the center of the site and then south towards the Imperial Valley substation. In order to safely span the same distance as the existing transmission lines, the transmission towers would be the same height as the existing towers, which are 140 feet in height. The project proposes the use of transmission towers at 140 feet in height, which would exceed the height limit within the A-2, A-2-R, and A-3 zones. Title 9 Division 5, Imperial County Land Use Ordinance, has established a maximum height of 120 feet for structures. As part of the Proposed Action, a variance application (Variance No. V10-0007) has been filed which, if approved by the County Planning Commission, would allow the new towers to be built at 140 feet in height. As part of the approval of the variance, findings pursuant to Title 9 Division 2, §90202.08 of the Imperial County Land Use Ordinance would need to be made. Figures 4.1-3a and 4.1-3b provides a visual simulation from KOP #4 of the southern portion of the solar energy facility site from I-8, which depicts the proposed solar panels and transmission line towers on the solar energy facility site.

Although the solar energy facility would change the existing visual character of the project site and would be visible from surrounding roadways and KOPs, the Proposed Action would require approval of a CUP by the County of Imperial that would allow for the construction and operation of the proposed solar energy facility site consisting of nine legal parcels zoned A-3 (Heavy Agriculture). Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-3 and A-2-R Zones, subject to securing a CUP. As such, with approval of the CUP, the proposed solar energy facility would be consistent with the allowed uses on the agricultural land and would not conflict with the surrounding land uses.

Furthermore, as discussed in Section 3.1 of this EIR/EA, the proposed solar energy facility site is located within a VRI Class III area and Interim VRM Class III area (BLM, 2010b). The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. If the observer were walking through the private land, which would be trespassing, the observer would notice that the Proposed Action would temporarily suspend the existing visual character of the site from existing fallow agricultural land to a solar energy facility; however, the Proposed Action would not substantially degrade the existing visual character or quality of the site and its surroundings. The existing conditions is that of a formerly graded and barren field

which has, over the past 10-20 years began to show signs of vegetation growth. The visual simulations in Figures 4.1-1a, 4.1-3a, and 4.1-4a (which were based on the larger and more visually obtrusive CPV technology) and Figures 4.1-1b, 4.1-3b, and 4.1-4b (depict PV panels) were done from KOPs where there is a greater likelihood of observers to view the project. Based on theses simulations, the observer, in the existing setting, sees asphalt in the foreground, then barren land (maintained in that condition by Caltrans to prevent fires) and then sparsely vegetated land that over the past 50 years went from field crops to fallow farmland to field crops to fallow farmland many times. The simulation is largely the same because the solar field comprises a small portion of the observer's field of vision, thus partially retaining the existing character of sparsely vegetated land with asphalt and Caltrans maintained land in the foreground and desert in the background. The level of change to the site is moderate and management's activities do not dominate the view of the casual observer when observed from any of the KOPs. Therefore, this issue is considered less than significant under CEQA.

Transmission Line Corridor

As discussed in Section 2.0 of this EIR/EA, the solar energy facility would interconnect via the installation of transmission lines and towers to the utility grid at the 230 kV side of the Imperial Valley Substation, located on lands managed by the BLM. The transmission lines and towers for the Proposed Action would extend from the north side of the existing Imperial Valley Substation northwest approximately five miles (Figure 2-15). Figure 2-16 depicts the transmission line corridor for the Proposed Action. The transmission line support structures would consist of monopoles from the project site to just south of the Imperial Valley Substation. The use of monopoles would reduce the visual impact, as it would match the proposed IID Dixieland 230 kV line. The monopoles would be spaced approximately 600 to 800 feet apart and would be roughly in line with the proposed IID Dixieland line's poles in an east-west direction. Two types of steel monopoles would be used, suspension (Figure 2-16) and deflection (Figure 2-18). Suspension and deflection monopoles are about 100 feet high.

As discussed in Section 3.1 of this EIR/EA, the adjacent BLM lands are visible from three KOPs located along Dunaway Road and I-8. However, due to distance and existing land topography, the existing transmission lines on BLM lands is only visible from KOP #2, located along I-8. Figures 4.1-4a (CPV panels) and 4.1-4b (PV panels) depicts a visual simulation of the proposed transmission lines and towers. As depicted on Figures 4.1-4a and 4.1-4b, the proposed transmission line corridor would be similar to the three existing transmission facilities located within this corridor. The proposed transmission line would occur within an area designated by the BLM for utilities, Utility Corridor "N." This is consistent with the CDCA. Specifically, the CDCA states "Applications for utility rights-of-way will be encouraged by BLM management to use designated corridors." Location of the Proposed Action within an existing transmission line corridor would minimize additional visual impacts by making use of an area already utilized for the same purpose and by not expanding outside the designated corridor. In addition, the materials used for the new towers and transmission lines would be similar and consistent with the color, texture, and materials utilized for the existing transmission towers and transmission lines.

As discussed in Section 3.1 of this EIR/EA, the proposed transmission line corridor is located within a VRI Class III area and Interim VRM Class III area (BLM, 2010b). The level of change to the landscape within the Interim

VRM Class III area can be moderate. The objective of this class is to "partially retain the existing character of the landscape" such that management actions do not dominate the view and changes should repeat the basic elements found in the natural landscape (BLM, 1984). According to the BLM's VRI, a VRI Class III area designation is defined as "the objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape" (BLM, 2010b). As discussed in Section 3.1 of this EIR/EA, the proposed transmission line corridor on BLM lands is located within a Multiple-Use Class L (Limited Use); however, because the proposed transmission line corridor will be located within a designated utility corridor and the transmission line will be similar to the existing transmission facilities located within this corridor, changes to visual resources within BLM lands would be minimal. Overall, the proposed transmission line corridor would be visually similar to the existing corridor and the project site is designated for such use; therefore, implementation of the Proposed Action would not substantially degrade the existing visual character or quality of the site and its surroundings and no direct or indirect effect with regard to this resource is anticipated under CEQA. Therefore, this issue is considered less than significant under CEQA.

Access Road

As discussed in Section 3.1, the proposed access road for the transmission line is located within BLM lands and is not visible from any KOPs. The proposed access road would disturb approximately 6.8 acres of BLM lands within the transmission line corridor and would be used to provide access to the transmission line corridor during construction and operation of the project. As such, construction and use of this road would change the existing visual character of the site, because the site is currently undeveloped. However, due to distance and existing land topography, the proposed access road within BLM lands would not be visible from any KOP and would be consistent with the CDCA. Therefore, this issue is considered less than significant under CEQA.

D. Light and Glare

Indicator 4: Create a new source of substantial light or glare which would affect day or nighttime views in the area.

Light

The solar energy facility site is currently vacant and was previously used intermittently for agricultural production; and, as such is not currently a source of light or glare. Project lighting, whether PV or CPV technology is ultimately selected, will be primarily in the area of the Operations and Maintenance (O&M) building as well as the transmission towers. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. In addition, motion sensors will be installed to reduce the light intensity at the site. As such, the Proposed Action is not anticipated to create a new source of substantial light that would affect day or nighttime views in the area and would not impact users of the area (e.g.,

campers, stargazers, and recreational users of the desert, etc.). Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.

Glare

The proposed photovoltaic modules (CPV or PV) are non-reflective (would not create a source of glare during sunlight hours) and convert sunlight directly into electricity. Additionally, the CPV modules implement a dual access tracker and are designed to point towards the sun. The sunlight is absorbed by the module. Glare is not seen when the modules are pointed towards the sun. Based on a *Glare assessment of Soitec Concentrix™ technology CPV installations* prepared by Fraunhofer Institute, on June 30, 2011, due to the high precision tracking of CPV technology (e.g., Soitec Concentrix™) in stallations, light reflected from modules mounted on a tracker is retro-reflected into the direction of the sun in regular mode of operation. Thus, perception of glare on the ground or close to the ground is largely impossible under regular operation. Only in cases when the tracking mechanism is in malfunction (e.g. due to a loss of power/power blackout), the glass surfaces may reflect sunlight to locations on or close to the ground. However, this will only be the case if the malfunction will happen at a time with clear sky and direct irradiance and the angular constellation of sun and tracker position is, by chance, producing a glare spot at a location given. Due to the movement of the sun and assuming a fixed position of the tracker in malfunction, such a glare spot will move so that at a given position, glare will not be perceivable during a longer period of time. In the rare case of such a glare spot under tracking malfunction, the glare produced by 'Concentrix™ Technology' CPV installations will be comparable to glare caused by a glass façade under a similar angular constellation (Fruanhofer, 2011).

Furthermore, the Proposed Action would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. In addition, the Proposed Action would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Therefore, future development on the project site is not anticipated to create a new source of glare, which would adversely affect day or nighttime views in the area. This issue is considered less than significant under CEQA.

4.1.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Scenic Vista

Indicator 1: Have a substantial effect on a scenic vista.

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor is not located in a scenic vista, nor does the County of Imperial General Plan designate the project site as an important visual resource. None of the roadways abutting or surrounding the project site are designated or proposed scenic roadways. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are identified as a designated scenic vista. Therefore, development of the Alternative 1-Alternative Transmission Line Corridor would not have a substantial direct or indirect effect on a scenic vista under CEQA. No significant impact under CEQA has been identified for this issue area.

B. Scenic Resources and State Scenic Highway

Indicator 2: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Similar to the Proposed Action, there are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the Alternative 1-Alternative Transmission Line Corridor project site. In addition, there are no designated scenic highways surrounding the project site nor is the project site visible from any designated scenic highway or public vantage point. Therefore, Alternative 1-Alternative Transmission Line Corridor would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 3.2 miles northeast of the Alternative 1-Alternative Transmission Line Corridor; views from this trail have a potential to be identified as a scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

Indicator 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

Alternative 1-Alternative Transmission Line Corridor is similar to the Proposed Action, as the solar energy facility site would be developed the same as in the Proposed Action. However, the proposed transmission line corridor would be developed in a slightly different location as compared to the Proposed Action. The majority of the alternative transmission line corridor would still be visible from the same three KOPs as the Proposed Action. As depicted on Figures 4.1-4a and 4.1-4b, the portions of the proposed transmission line corridor for Alternative 1-Alternative Transmission Line Corridor is anticipated to be visible from KOP #2. However, similar to the Proposed Action, the transmission line corridor for Alternative 1-Alternative Transmission Line Corridor would be constructed within a designated utility corridor on BLM lands. As such, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would not substantially degrade the existing visual character or quality of the site and its surroundings. And while fallow agriculture fields are a common site in Imperial County, a solar energy facility, which is not common, can be a visual point of interest for some members of the public. In addition, the proposed access road for the transmission line would be constructed within BLM lands and would be used during construction and operation of the project. Similar to the Proposed Action, the proposed access road under Alternative 1-Alternative Transmission Line Corridor is not visible from any KOP and would be consistent with the CDCA. Therefore, no direct or indirect effects with regard to this resource are anticipated under CEQA. Therefore, this issue is considered less than significant under CEQA.

D. Light and Glare

Indicator 4: Create a new source of substantial light or glare which would affect day or nighttime views in the area.

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, whether PV or CPV technology is ultimately selected, will install motion sensor lighting that is designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. In addition, Alternative 1-Alternative Transmission Line Corridor would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. Furthermore, Alternative 1-Alternative Transmission Line Corridor would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Similar to the Proposed Action, the proposed photovoltaic modules (PV or CPV) for this alternative are non-reflective and convert sunlight directly into electricity. Therefore, Alternative 1-Alternative Transmission Line Corridor would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area and would not impact users of the area (e.g., campers, stargazers, and recreational users of the desert, etc.). Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.

4.1.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Scenic Vista

Indicator 1: Have a substantial effect on a scenic vista.

Similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor is not located in a scenic vista, nor does the County of Imperial General Plan designate the project site as an important visual resource. None of the roadways abutting or surrounding the project site are designated or proposed scenic roadways. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are identified as a designated scenic vista. Therefore, development of the Alternative 2-Alternative Transmission Line Corridor would not have a substantial direct or indirect effect on a scenic vista under CEQA. No significant impact under CEQA is identified for this issue area.

B. Scenic Resources and State Scenic Highway

Indicator 2: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Similar to the Proposed Action, there are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the Alternative 2-Alternative Transmission Line Corridor project site. In addition, there are no designated scenic highways surrounding the project site nor is the project site visible from any designated scenic highway or public vantage point. Therefore, Alternative 2-Alternative

Transmission Line Corridor would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 3.2 miles northeast of the Alternative 2-Alternative Transmission Line Corridor; views from this trail have a potential to be identified as scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

Indicator 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

Alternative 2-Alternative Transmission Line Corridor is similar to the Proposed Action, as the solar energy facility site would be developed the same as in the Proposed Action. However, the proposed transmission line corridor would be developed in a slightly different location and would use different transmission line support structures as compared to the Proposed Action. The majority of the alternative transmission line corridor would still be visible from the same three KOPs as the Proposed Action. As depicted on Figures 4.1-4a and 4.1-4b, the portions of the proposed transmission line corridor for Alternative 2-Alternative Transmission Line Corridor is anticipated to be visible from KOP #2. The transmission line support structures that would be used for the Alternative 2-Alternative Transmission Line Corridor would consist of steel lattice towers. Steel A-frame structures would be used to allow the crossing of the Southwest Power Link. The steel lattice towers would be spaced approximately 900 to 1,150 feet apart and would be roughly in line with the existing line's towers in an east-west direction. Three types of towers would be used, suspension, deflection and dead end towers. Suspension, deflection, and dead-end towers are about 140 feet high. Although the Alternative 2 transmission line would be developed in a slightly different location and would use different transmission line support structures, similar to the Proposed Action, the transmission line corridor for Alternative 2-Alternative Transmission Line Corridor would be constructed within a designated utility corridor on BLM lands. As such, similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor would not substantially degrade the existing visual character or quality of the site and its surroundings. And while fallow agriculture fields are a common site in Imperial County, a solar energy facility, which is not common, can be a visual point of interest for some members of the public. In addition, the proposed access road for the transmission line would be constructed within BLM lands and would be used during construction and operation of the project. Similar to the Proposed Action, the proposed access road under Alternative 2-Alternative Transmission Line Corridor is not visible from any KOP and would be consistent with the CDCA. Therefore, no direct or indirect effects with regard to this resource are anticipated under CEQA. Therefore, this issue is considered less than significant under CEQA.

D. Light and Glare

Indicator 4: Create a new source of substantial light or glare which would affect day or nighttime views in the area.

Similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor, whether PV or CPV technology is ultimately selected, will install motion sensor lighting that is designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. In addition, Alternative 2-Alternative Transmission Line Corridor would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. Furthermore, Alternative 2-Alternative Transmission Line Corridor would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Similar to the Proposed Action, the proposed photovoltaic modules (PV or CPV) for this alternative are non-reflective and convert sunlight directly into electricity. Therefore, Alternative 2-Alternative Transmission Line Corridor would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area and would not impact users of the area (e.g., campers, stargazers, and recreational users of the desert, etc.). Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.

4.1.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Scenic Vista

Indicator 1: Have a substantial effect on a scenic vista.

Similar to the Proposed Action Alternative 3-Reduced Solar Energy Facility Site is not located in a designated scenic vista, nor has the County of Imperial General Plan designated the project site as an important visual resource. None of the roadways abutting or surrounding the project site are designated or proposed scenic roadways. Therefore, development of the Alternative 3-Reduced Solar Energy Facility Site would not have a substantial direct or indirect effect on a scenic vista under CEQA. No significant impact under CEQA is identified for this issue area.

B. Scenic Resources and State Scenic Highway

Indicator 2: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Similar to the Proposed Action, there are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the Alternative 3-Reduced Solar Energy Facility Site project site. In addition, there are no designated scenic highways surrounding the project site nor is the project site visible from any scenic highway or designated public vantage point. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not substantially damage scenic resources, including, but not limited to

trees, rock outcroppings, and historic buildings within a state scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 3.2 miles northeast of the Alternative 3-Reduced Solar Energy Facility Site; views from this trail have a potential to be identified as scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

Indicator 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

Under Alternative 3-Reduced Solar Energy Facility Site, the solar energy facility site would be reduced in size compared to the Proposed Action. However, the transmission line corridor would be the same as the Proposed Action. Similar to the Proposed Action, the solar energy facility site is visible from three KOPs and the transmission line corridor is visible from three KOPs. However, as discussed above, with the approval of a CUP the proposed solar energy facility would be an allowed use on the project site. In addition, the transmission line corridor would be located within a designated utility corridor on BLM lands and would be similar to the existing transmission line corridor. And while fallow agriculture fields are a common site in Imperial County, a solar energy facility, which is not common, can be a visual point of interest for some members of the public. In addition, the proposed access road for the transmission line would be constructed within BLM lands and would be used during construction and operation of the project. Similar to the Proposed Action, the proposed access road under Alternative 3-Reduced Solar Energy Facility Site is not visible from any KOP and would be consistent with the CDCA. As such, similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site would not substantially degrade the existing visual character or quality of the site and its surroundings and no direct or indirect effect with regard to this resource is anticipated under CEQA.

D. Light and Glare

Indicator 4: Create a new source of substantial light or glare which would affect day or nighttime views in the area.

Similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site, whether PV or CPV technology is ultimately selected, will install motion sensor lighting that is designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the desired areas only. In addition, Alternative 3-Reduced Solar Energy Facility Site would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. Furthermore,

Alternative 3-Reduced Solar Energy Facility Site would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Similar to the Proposed Action, the proposed photovoltaic modelues (PV or CPV) for this alternative are non-reflective and convert sunlight directly into electricity. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.

4.1.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on visual resources from the Alternative 4-No Action/No Project Alternative.

4.1.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would not result in a significant visual resources impact under CEQA and no mitigation is required.

4.1.2 NEPA Environmental Assessment

4.1.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

In addition to the potential impacts discussed in Section 4.1.1.1, other potential impacts to visual resources must be analyzed under NEPA. Based on the analysis provided above under Section 4.1.1.1, the Proposed Action is not located in a designated scenic vista, nor has the County of Imperial General Plan designated the project site as an important visual resource. Even though this indicator provides a context in which to review the project, the fact remains that an additional industrial facilities will be constructed. Although the transmission line would be located in a specifically designated transmission corridor, this does not negate the fact that an incremental impact of an additional transmission line within the corridor does occur. Development of the Proposed Action would not directly or indirectly alter or change a designated scenic vista, nor would the Proposed Action otherwise affect scenic resources that have not already been altered by previous development. While the existing transmission lines don't parallel the proposed transmission line in it's entirety, the existing transmission lines in the area are visible from a majority of the KOPs. There are no sensitive receptors that would be able to view the area. It is also notable that the land for the transmission line and access road is designated as a utility corridor, as discussed below.

Based on the analysis provided above under Section 4.1.1.1, the Proposed Action would not directly or indirectly alter scenic resources within a state scenic highway, as no designated state scenic highway is located within proximity to the project site.

The proposed transmission line corridor will be located within a designated utility corridor and the transmission line will be similar to the other existing and proposed transmission facilities located within this corridor; therefore, the visual resources within BLM lands would not be altered. The existing transmission lines include facilities built by SDG&E, Sempra, Intergen, and IID. SDG&E's facilities include a 230kV line, the 500kV Southwest Powerlink, and recently constructed portions of the 500kV Sunrise Powerlink. There are no existing transmission lines that run from the project site to the Imperial Valley Substation. The 500kV Southwest and Sunrise Powerlink lines are located about a half a mile south of the proposed solar field for this project. The Sunrise Powerlink, is approved and under construction; however, both Sunrise and Southwest Powerlink are too big for the proposed transmission to interconnect to. The Imperial Valley Solar proposed transmission lines will pass a half mile South of the proposed solar field; however, construction of this transmission facility is uncertain. IID operates the 230kV "S" line which runs due North of the Imperial Valley Substation and the Sempra, Interegen, and SDG&E lines run to the South of Imperial Valley Substation. While these lines come from various directions, they all lead to the Imperial Valley Substation, so the closer an observer gets to the substation, the more prominent the transmission lines become. Because the proposed transmission line would be similar to the existing and proposed facilities and the project site is designated for such use, implementation of the Proposed Action would only incrementally degrade the existing visual character or quality of the site and its surrounding viewshed. Visual simulations of the Proposed Action demonstrate that implementation of the Proposed Action would alter the visual appearance of the project site from its existing undeveloped character. However, the transmission line is located within Interim VRM Class III area and a VRI Class III area, which allows for a moderate level of change to the landscape (BLM, 2010b). As discussed above, the visual simulations in Figures 4.1-1a, 4.1-3a, and 4.1-4a (which were based on the larger and more visually obtrusive CPV technology) and Figures 4.1-1b, 4.1-3b, and 4.1-4b (depict PV panels) were done from KOPs where there is a greater likelihood of observers to view the project. Based on these simulations, the observer, in the existing setting, sees asphalt in the foreground, then barren land (maintained in that condition by Caltrans to prevent fires) and then sparsely vegetated land that over the past 50 years went from field crops to fallow farmland to field crops to fallow farmland many times. The simulation is largely the same because the solar field comprises a small portion of the observer's field of vision, thus partially retaining the existing character of sparsely vegetated land with asphalt and Caltrans maintained land in the foreground and desert in the background. The level of change to the site is moderate and management's activities do not dominate the view of the casual observer when observed from any of the KOPs.

The objective of this class is to partially retain the existing character of the landscape which the proposed action does. Management activities may attract attention but should not dominate the view of the casual observer. As shown in the simulations, the transmission lines do not dominate the viewshed. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. In addition, the proposed access road for the transmission line would be constructed within BLM lands and would be used during construction and operation of the project. The proposed access road under the Proposed Action is not visible from any KOP and would be consistent with the CDCA and Interim VRM Class III and VRI Class III. Therefore, no direct or indirect impacts are identified for this issue area.

With regard to light, as discussed above in Section 4.1.1.1, the Proposed Action would utilize temporary lighting during construction in the area of the O&M building for safety and security. In addition, permanent lighting will be used in the area of the O&M building as well as transmission towers. Both temporary and permanent lighting will be designed to provide minimum illumination needed to achieve safety and security objectives and will be downward shielded to focus illumination on the desired areas only. Additionally, motion sensors will be installed to reduce the light intensity at the site.

As discussed above under Section 4.1.1.1, the proposed photovoltaic modules (CPV or PV panels) are non-reflective (would not create a source of glare during sunlight hours). The Proposed Action would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. In addition, the Proposed Action would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Therefore, future development on the project site is not anticipated to create a new source of glare that would directly or indirectly affect day or nighttime views in the area).

B. Alternative 1-Alternative Transmission Line Corridor

The Visual Resources impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for the Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Visual Resources impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for the Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Visual Resources impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for the Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.1.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on visual resources from the Alternative 4-No Action/No Project Alternative.

4.1.3 Mitigation Measures and Residual Impacts

No mitigation measures are proposed. Therefore, the residual impacts would be the same as the impacts described above.

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4.2 Land Use

CEQA Significance Criteria

For the purposes of this EIR/EA, a significant Land Use impact, under CEQA, would occur if implementation of the Proposed Action including the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Physically divide an established community;*

Indicator 2: *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or,*

Indicator 3: *Conflict with the any applicable habitat conservation plan or natural community conservation plan.*

NEPA Methodology

Evaluation of potential land use impacts of the Proposed Action was based on review of relevant planning documents, including the California Desert Conservation Area Plan, 1980, as amended; Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan; Flat-tailed Horned Lizard Rangewide Strategy; Federal Aviation Regulations Part 77; Imperial County General Plan; the Imperial County Land Use Ordinance; the Federal Land Management Policy Act; as well as a field review of the project site and surrounding area conducted by BRG Consulting, Inc. The focus of the land use analysis is on impacts that would result from implementation of the proposed project. Land use conflicts are identified and evaluated based on existing land uses, land uses proposed as part of the project, land use designations, and standards and policies related to land use. Land use compatibility is based on the intensity and patterns of land use to determine whether the project would result in incompatible uses or nuisance impacts.

Potential land use conflicts (specifically during construction activities) are usually the result of other environmental effects, such as generation of noise or air quality issues resulting from grading activities. Operational land use impacts of the project are evaluated in this section, and the reader is referred to Sections 4.1 through 4.16 for detailed analysis of other environmental impacts, including noise, traffic, air quality, and biological and natural resources, that would result from the project's construction and operation.

In addition, evaluation of the Proposed Action's impacts on Land Use issues for NEPA purposes was framed using the above-mentioned CEQA indicators, because those indicators capture the range of potential Land Use impacts that could occur as a result of the Proposed Action and Alternatives.

4.2.1 CEQA Environmental Analysis

4.2.1.1 Proposed Action

A. Divide Established Community

Indicator 1: Physically divide an established community.

The solar energy facility portion of the project site is not close to dense urban uses, rather it is generally surrounded by agricultural lands and BLM lands designated and used for utility corridors. The majority of the solar energy facility site was previously used for agricultural purposes and the proposed transmission line corridor is located within a designated utility corridor (Utility Corridor "N" as designated in the CDCA). The proposed transmission line is located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line through BLM lands. The transmission line corridor would extend through undeveloped desert lands; and no residential community exists in the area. The solar energy facility site is located within an unincorporated area of Imperial County and is predominately surrounded by agriculture and government land uses. Development and operation of the Proposed Action would not divide a community as no established community exists within, or surrounding the proposed solar energy site and the project would not physically divide a community. Additionally, as discussed in Section 4.8, no physical impact, such as noise that could conflict with adjacent uses has been identified with the Proposed Action. For these reasons, the Proposed Action would not physically divide an established community and would have no direct or indirect impact on an established community. For purposes of CEQA, the Proposed Action's effect is not considered a significant impact.

B. Existing Land Use Plans, Policies and Regulations

Indicator 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Federal Land Management Policy Act, 1976

The construction and operation of the proposed transmission line and access route component of the Proposed Action is consistent with the Federal Land Management Policy Act (FLMPA). Specifically, Section 503, states, "In order to minimize adverse environmental impacts and the proliferation of separate rights-of-way, the utilization of rights-of-way in common shall be required to the extent practical, and each right-of-way or permit shall reserve to the Secretary concerned the right to grant additional rights-of-way or permits for compatible uses on or adjacent to rights-of-way granted pursuant to this Act." The transmission line proposed under the Proposed Action would be consistent with this provision because the proposed transmission corridors would be located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line within a designated utility corridor. The solar energy facility portion of the site is on privately owned land and is therefore not

subject to the FLMPA. For these reasons, the Proposed Action would not conflict with the FLMPA. For purposes of CEQA, the Proposed Action's effect is not considered a significant impact.

California Desert Conservation Area Plan 1980, as amended

Public lands within the CDCA are managed based on the concepts of multiple-use, sustained yield, and maintenance of environmental quality. The proposed transmission line corridor and the proposed access road for the Proposed Action are located entirely within the CDCA-designated Utility Corridor "N." As shown in Table 1 of the CDCA Plan, Multiple-Use Class Guidelines, within the Limited Use area, "new gas, electric, and water transmission facilities and cables for interstate communication may be allowed only within designated corridors (see Energy Production and Utility Corridors Element)." The proposed transmission line and access road portion within BLM lands would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

The ACEC Management Plan allows for the "traversing of the ACEC by proposed transmission lines and associated facilities if environmental analysis demonstrates that it is environmentally sound to do so." The Yuha Basin ACEC Management Plan has been prepared in order to give additional protection to unique cultural resource and wildlife values within portions of the Yuha Basin. This ACEC contains high density and diversity of cultural resources, including intaglios, temporary camps, lithic scatters, cremation loci, pottery loci, trails, and shrines. The ACEC also includes 11 sections containing high relative densities of the flat-tailed horned lizard (FTHL). The designation as an ACEC provides special land use and management requirements intended to enhance and protect the sensitive cultural and biological resources found in the region.

The Flat-tailed Horned Lizard Rangewide Management Strategy discourages surface-disturbing projects within the Management Areas; however the RMS allows cumulative disturbance to 1% of the total land area in the Management Areas. For projects proposed within a Management Area, the RMS encourages siting in previously disturbed areas or in an area where habitat quality is poor. Surface-disturbing activities should be minimized through planning and implementation of appropriate conservation measures and specific measures developed to avoid and minimize direct and indirect impacts to FTHL must be implemented.

As discussed in EIR/EA Sections 4.7 Cultural Resources and 4.12 Biological Resources, the Proposed Action's potential impacts to biological resources is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive resources and cultural resources. The Proposed Action is designed to be consistent with the California Desert Conservation Area Plan, Yuha Desert Basin ACEC Management Plan, and Flat-tailed Horned Lizard Rangewide Management Strategy. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B1 (Mitigation of Impacts to Vegetation Communities), B3 (FTHL Mitigation Measures), B4 (General O&M Mitigation) and B5 (Burrowing Owl) have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Section 4.7 contains Mitigation

Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered), which are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. The Proposed Action transmission line corridor is located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line through BLM lands. Thereby minimizing additional disturbance to natural desert lands and minimizing effects to archaeological resources. For these reasons, the Proposed Action is consistent with the Yuha ACEC Management Plan or the FTHL RMS. Therefore, the Proposed Action's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

The County's General Plan Land Use Element applies only to the solar energy facility portion of the Proposed Action, because that is the only portion of the project site located within the jurisdiction of the County of Imperial. The transmission line portion of the site is under the jurisdiction of the BLM. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, other than a statement in the Imperial County Land Use Element that states "Electrical and other energy generating facilities are heavy industrial uses, except geothermal, hydroelectric, wind, and solar facilities may be regulated differently than other types of power plants by implementing zoning." However, the Land Use Element recognizes that geothermal plants, a similar use to the extent that it represents a renewable energy resource, are permitted uses within the "Agriculture" land use category, so long as a CUP is issued and environmental review is completed. The proposed solar energy facility portion of the Proposed Action would require issuance of a CUP (CUP#10-0012) and associated environmental analysis.

The Land Use Compatibility Matrix (Table 4 of the Land Use Element) identifies land designated with an "Agriculture" land use are compatible with lands zoned A-2, A-2-R, and A-3. The Proposed Action is a conditionally permitted use under the A-2, A-2-R, and A-3 zones, and is considered consistent with the "Agriculture" land use designation. No General Plan land use amendment would be required for construction and operation of the solar energy facility.

Table 4.2-1 provides an analysis of the project's consistency with applicable General Plan goals and policies. The Proposed Action is considered to be in substantial conformance with the goals and objectives as identified in Table 3.2-1. "An action, program, or project is consistent with the general plan if, considering all its aspects it will further the objectives and policies of the general plan and not obstruct their attainment." *Corona-Norco Unified School Dist. V. City of Corona* (1993) 17 Cal.App.4th 985.944 [emphasis added].

The County identifies agricultural land as a form of open space. According to the Land Use Element of the General Plan, the permitted uses and standards on agricultural lands include open space/recreation. "Open space and recreation land uses within this category consists of environmentally sensitive areas, parks, fault zones, floodways and floodplains, agricultural lands, and areas designated for the managed production of mineral resources." The land proposed for the solar energy facility is subject to a 30-year lease agreement. Under the lease agreement, the applicant is required to restore the land to its current

TABLE 4.2-1
General Plan Consistency Analysis

Land Use Element	
Regional Vision	
Objective 3.6 Recognize and coordinate planning activities as applicable with the Bureau of Land Management (BLM), and the California Desert Conservation Plan.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site is consistent with this objective as the project applicant has coordinated with BLM regarding proposed development, activities, and the interface with BLM lands. The proposed solar facility portion of the project is located on private lands and would not encroach into the adjacent BLM lands. The proposed transmission lines and tower associated with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be designed to preserve the BLM area that surrounds the site and be consistent with the California Desert Conservation Plan, because the proposed transmission line corridor (Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site) is located entirely within the designated Utility Corridor "N." The proposed transmission line corridor is considered an allowed use as it would be located within a designated utility corridor, thereby minimizing to the extent possible any additional disturbance to desert lands. The BLM will evaluate the Proposed Action's potential impacts within the CDCA Plan. Furthermore, the project will require approval by the BLM of a right-of-way grant in order to allow the construction and operation of the proposed transmission lines within Federal lands managed by the BLM. As such, with the construction of the proposed transmission line within the existing Utility Corridor "N" and the approval of a right-of-way grant from the BLM, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be consistent with this objective.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Public Facilities	
Objective 8.7 Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site is consistent with this objective. The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are anticipated to result in a minimal increase in water demand/use. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main canal and treat it to the level required for domestic and solar panel washing use. Domestic wastewater from the operations and maintenance building is expected to be limited in volume due to the few staff members required on-site. This wastewater will be treated via an on-site septic system.
Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective. The Proposed Action is consistent with the County's land use ordinance. It is an allowed use subject to issuance of a Conditional Use Permit. Furthermore, the project will be required to obtain a right-of-way grant from the BLM to construct and operate the transmission lines through BLM's Utility Corridor "N."
Objective 8.9 Require necessary public utility rights-of-way when appropriate.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective, as the project will be required to obtain a right-of-way grant from the BLM.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Protection of Environmental Resources	
Objective 9.6 Incorporate the strategies of the Imperial County Air Quality Attainment Plan (AQAP) in land use planning decisions and as amended.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective. Due to the minimal grading of the site during construction and limited travel over the site during operations, local vegetation is anticipated to remain largely intact which will assist in dust suppression. Furthermore, dust suppression will be implemented including the use of water and soil binders during construction. Finally, the project will provide a benefit to the region by providing a clean, renewable energy source.
Circulation and Scenic Highways Element	
Safe, Convenient, and Efficient Transportation System	
Objective 1.1 Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	The project is consistent with this objective. As discussed in Section 3.3 and 4.3 Transportation/Circulation of this EIR/EA, the traffic analysis project study intersections, segments, and highways were calculated to operate at LOS C or better under all the scenarios. As such, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with the County's General Plan Circulation and Scenic Highway Element.
Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads.	The project is consistent with this objective. A traffic analysis has been prepared for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site. As discussed in Section 4.3 Transportation/Circulation of this EIR/EA, no significant impacts would occur with implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site. As such, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with the County's General Plan Circulation Element.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Noise Element	
Noise Environment	
Objective 1.3 Control noise levels at the source where feasible.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective. As discussed in EIR/EA Section 4.8, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will meet the County's noise standards.
Project/Land Use Planning	
Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this goal. As discussed in EIR/EA Section 4.8, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will meet the County's noise standard.
Long Range Planning	
Goal 3: Provide for environmental noise analysis inclusion in long range planning activities which affect the County.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this goal. A noise analysis report has been prepared for this project. As discussed in EIR/EA Section 4.8, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will meet the County's noise standard.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Seismic and Public Safety Element	
Land Use Planning and Public Safety	
Objective 1.1 Ensure that data on geological hazards is incorporated into the land use review process, and future development process.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective. A geotechnical report has been prepared for the project site. As discussed in EIR/EA Section 4.6, according to the report, there are no significant geotechnical hazards located on the project site. Adherence to the recommendations provided in the geotechnical report, would reduce any potential localized geotechnical impacts to a level less than significant. The project is consistent with this objective.
Objective 1.7 Require developers to provide information related to geologic and seismic hazards when siting a Proposed Action.	The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site are consistent with this objective. A geotechnical report has been prepared for the project site. As discussed in EIR/EA Section 4.6, according to the report, there are no significant geotechnical hazards located on the project site. Adherence to the recommendations provided in the geotechnical report, would reduce any potential localized geotechnical impacts to a level less than significant. The project is consistent with this objective.
Conservation and Open Space Element	
Preservation of Biological Resources	
Goal 2: The County will preserve the integrity, function, productivity, and long-term viability of environmentally sensitive habitats, and plant and animal species.	A biological resources survey was conducted for the project site. As discussed in EIR/EA Section 4.12, there are significant biological resources located on the project site. However, with the implementation of Mitigation Measures B1 through B7, these impacts are reduced to a level less than significant. The project is consistent with this objective.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Preservation of Cultural Resources	
Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	A cultural resources survey was conducted for the project site. As discussed in EIR/EA Section 4.7 archaeological resources are located within the project area, and mitigation is required. With the implementation of mitigation, the impact to this resource is reduced to a level less than significant. The project is consistent with this objective.
Preservation of Agricultural Lands	
Goal 4: The County will actively conserve and maintain contiguous farmlands and prime soil areas to maintain economic vitality and the unique lifestyle of the Imperial Valley.	The project is consistent with this goal, because the project will not permanently convert existing agricultural uses to non-agricultural uses. The proposed solar energy facility site is located on fallow agricultural lands. These lands have remained fallow for over 10 years. Please refer to EIR/EA Section 4.9 Agricultural Resources, which provides a more detailed analysis of the project's consistency with applicable agricultural goals and objectives.
Conservation of Energy Sources	
Goal 6: The County shall seek to achieve maximum conservation practices and maximum development of renewable alternative sources of energy.	The project is consistent with this goal. The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site is the construction and operation of a solar energy facility, which is considered an alternative source of energy.
Objective 6.2 Encourage the utilization of alternative passive and renewable energy resources.	The project is consistent with this goal. The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site is the construction and operation of a solar energy facility, which is considered an alternative source of energy. With implementation of the project, it would create and utilize solar energy.

TABLE 4.2-1
General Plan Consistency Analysis (cont'd.)

Objective 6.6 Encourage compatibility with National and State energy goals and city and community general plans.	The project is consistent with this goal. The proposed solar energy facility is consistent with California Public Utilities Code § 399.11 et seq., "Increasing the Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix." California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020.
Geothermal/Alternative Energy and Transmission Element	
Agricultural Lands and Biological Resources	
Objective 2.3 Utilize existing easements or right-of-way and follow field boundaries for electric and liquid transmission lines.	The project is consistent with this objective. The Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would obtain a right-of-way grant from the BLM to construct transmission lines within BLM's Utility Corridor "N."
Objective 2.4 Carefully analyze the potential impacts on agricultural and biological resources from each project.	The project is consistent with this objective. Please refer to EIR/EA Section 4.9 Agricultural Resources, which discusses the potential impacts to agricultural resources. A biological resources report has been prepared for this project. Please refer to EIR/EA Section 4.12 Biological Resources, which discusses the potential impacts.
Locating Transmission Line Corridors	
Goal 5: When planning and designing transmission lines, the County will consider impacts to agricultural lands, wildlife, and the natural desert landscape.	The project is consistent with this goal. Please refer to EIR/EA Section 4.9 Agricultural Resources and 4.12 Biological Resources, which discuss the potential impacts.
Objective 5.1 Require all major transmission lines to be located in designated federal and IID corridors or other energy facility corridors such as those owned by investor owned utilities and merchant power companies.	The project is consistent with this objective. As part of the project, transmission lines would be constructed on Utility Corridor "N" located on BLM lands. The project would obtain a right-of-way grant approval from the BLM.

Source: BRG Consulting, Inc., 2010.

use at the end of the project term. Current use of the site for recreational activity is limited, and restricted to those with legal access to this private property. The temporary conversion of this private land to the proposed solar energy facility would not significantly affect any recreational use of this area and is not considered significant under CEQA.

County of Imperial Land Use Ordinance

The Proposed Action is the construction and operation of a solar energy facility and associated electrical transmission lines and towers. Development of the solar energy facility is subject to the County's Land Use Ordinance. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in A-3 zone subject to approval of a Conditional Use Permit from the County of Imperial. ("Transmission lines, including supporting towers, poles, microwave towers, utility substations" are permitted uses within the A-3 Zone). Pursuant to Title 9, Division 5, Chapter 8, "Solar energy electrical generator," "Electrical power generating plant," "Major facilities relating to the generation and transmission of electrical energy," and "Resource extraction and energy development," are uses that are permitted in the A-2 and A-2-R zone subject to approval of a Conditional Use Permit from the County of Imperial. As part of the Proposed Action, a CUP application (CUP#10-0012) has been filed which would allow the uses of the Proposed Action to occur within the A-2, A-2-R and A-3 zones. Thus, the Proposed Action would be consistent with the Land Use Ordinance and the underlying zoning of the project site. Therefore, no significant impact under CEQA related to the County of Imperial Land Use Ordinance would occur.

A new transmission line is required to connect the proposed solar generating facility to the electric grid at the Imperial Valley substation, located approximately 5 miles southeast of the proposed solar energy facility site. The proposed transmission line would be located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line within Utility Corridor "N." The project proposes the use of transmission towers at 140 feet in height, which would be the same height as existing towers located within Utility Corridor "N," but would exceed the height limit within the A-2, A-2-R, and A-3 zones. Title 9 Division 5, Imperial County has established a maximum height of 120 for structures: "Non-residential structures and commercial communication towers shall not exceed 120 feet in height, and shall meet the Airport Land Use Compatibility Plan requirements." As part of the Proposed Action, a variance application (Variance No. V10-0007) has been filed which, if approved by the County, would allow the new towers to be built at 140 feet in height within the solar energy facility site. As part of the approval of the variance, findings pursuant to Title 9 Division 2 §90202.08 of the Imperial County Land Use Ordinance would need to be made. No variance is required for the BLM portion of the project. With the obtainment of the variance, the Proposed Action would be consistent with the County's Land Use Ordinance and the underlying zoning of County land.

For these reasons, the Proposed Action would not result in a significant impact related to the County of Imperial Land Use Ordinance. Therefore, no significant impact under CEQA associated with the County's Land Use Ordinance is identified for this issue area.

Airport Land Use Compatibility Plan (ALUCP)

The project site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The solar generating facility and new transmission lines are located within the Imperial County

Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). According to Appendix D Compatibility Guidelines for Specific Land Uses of the ALUCP, "Power Lines" and "Power Plants" are all identified as "Compatible" within the Compatibility Zone D. Furthermore, on June 16, 2010, the Airport Land Use Commission (ALUC) determined that this portion of the Proposed Action is consistent with the ALUCP and no height restrictions are required. Therefore, the proposed solar energy facility and associated transmission towers on the solar energy facility site and within the BLM lands have been determined to be consistent with the adopted ALUCP. Although no specific compatibility requirements are required with the implementation the Proposed Action per the ALUCP, the applicant would be required to comply with criteria as identified in 14 CFR Part 77.13 in order to construct the project. Based on a review of the criteria, the project is not required to provide notice pursuant to FAA 14 CFR Part 77.13, because the project doesn't meet any of the criteria requirements. Therefore, no significant impact under CEQA is identified for this issue area.

C. Conservation Plans

Indicator 3: Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Proposed Action area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The County of Imperial is not within the boundary of any adopted HCP or NCCP. The proposed solar energy facility would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA.

California Desert Conservation Area Plan, 1980, as amended

The proposed transmission line corridor for the Proposed Action is located entirely within the designated Utility Corridor "N" (Figure 3.2-3). Furthermore, as shown in Table 1, of the Plan, Multiple-Use Class Guidelines, within the Limited Use area, "new gas, electric, and water transmission facilities and cables for interstate communication may be allowed only within designated corridors (see Energy Production and Utility Corridors Element)." The proposed transmission lines would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

The ACEC Management Plan allows for the "traversing of the ACEC by proposed transmission lines and associated facilities if environmental analysis demonstrates that it is environmentally sound to do so." Further, the Flat-tailed Horned Lizard Rangewide Management Strategy encourages surface-disturbing projects to be located outside of Management Areas and limits the disturbance to 1% of the total land area in the Management Areas. However, it does not preclude such projects from the Management Area. If a project must be located within a Management Area, effort should be made to locate the project in a previously disturbed area or in an area where habitat quality is poor and construction should be timed to

minimize mortality. Surface-disturbing activities should be minimized through planning and implementation of appropriate conservation measures.

Proposed impacts to resources, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. Furthermore, BLM manages all land uses within the ACEC in order to minimize impact to the sensitive area. The Proposed Action is designed to be consistent with the California Desert Conservation Area Plan, Yuha Desert Basin ACEC Management Plan, and Flat-tailed Horned Lizard Rangewide Management Strategy. For example, the transmission line corridor alternatives are located in a previously disturbed area. The Southwest Powerlink 500 kV transmission line is located approximately 2,600 feet from the Proposed Action transmission line and the proposed Dixieland 230 kV transmission line would parallel the proposed transmission line, thereby minimizing to the extent possible any additional disturbance to pristine desert lands. As discussed in EIR/EA Section 4.12 Biological Resources, Mitigation Measures B1, B3, B4 and B5 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, with the implementation of Mitigation Measures B1, B3, B4 and B5, no impact under CEQA is identified for this issue area.

Compatibility with Adjacent Uses

The solar energy facility portion of the project site is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated, and used for utility corridors. No physical impact, such as noise that could conflict with adjacent uses has been identified to be associated with the Proposed Action. The proposed transmission line would be located within a designated utility corridor (Utility Corridor "N"). Furthermore, the proposed solar energy facility is an allowable use on land zoned and designated in the Imperial County as agriculture. As such, no significant impact under CEQA associated with the project's compatibility with adjacent uses is anticipated.

4.2.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Divide Established Community

Indicator 1: Physically divide an established community.

As with the Proposed Action, the area of Alternative 1-Alternative Transmission Line Corridor is currently vacant (was previously used for agricultural purposes) and desert. Development and operation of the Alternative 1-Alternative Transmission Line Corridor would not divide a community as no development exists within, or in the surrounding area of the site and the project would not physically divide a community. Additionally, as discussed in Section 4.8 of this EIR/EA, no physical impact, such as noise, which could conflict with adjacent uses, has been identified with Alternative 1-Alternative Transmission Line Corridor. Therefore, this issue is not considered a significant impact under CEQA.

B. Existing Land Use Plans, Policies and Regulations

Indicator 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Federal Land Management Policy Act, 1976

Similar to the Proposed Action, the transmission line proposed under Alternative 1-Alternative Transmission Line Corridor would be consistent with the provisions of the FLMPA because this proposed transmission corridor would be located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line through BLM lands. The solar energy facility portion of the site is on privately owned land and is therefore not subject to the FLMPA. For these reasons, Alternative 1-Alternative Transmission Line Corridor would not conflict with the FLMPA. Therefore, Alternative 1- Alternative Transmission Line Corridor's effect is not considered a significant impact under CEQA.

California Desert Conservation Area Plan 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor and access road through BLM lands for Alternative 1-Alternative Transmission Line Corridor is located entirely within the CDCA-designated Utility Corridor "N." The proposed transmission lines and access road would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to cultural and biological resources for Alternative 1-Alternative Transmission Line Corridor, as discussed in EIR/EA Sections 4.7 Cultural Resources and 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive biological resources and cultural resources. Alternative 1-Alternative Transmission Line Corridor is designed to be consistent with the CDCA Plan, Yuha Desert Basin ACEC Management Plan, and FTHL RMS. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B3 (FTHL Mitigation Measures), B4 (General O&M Mitigation), B5 (Burrowing Owl), B9 (Mitigation of Impacts to Vegetation Communities), and B10 (FTHL Compensation) have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Section 4.7 contains Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered) are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. Therefore, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

Similar to the Proposed Action, the County's General Plan applies only to the solar energy facility portion of Alternative 1-Alternative Transmission Line Corridor, because that is the only portion of the project site located within the jurisdiction of the County of Imperial. The transmission line portion of the site is under the jurisdiction of the BLM. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, other than a statement in the Imperial County Land Use Element that states, "Electrical and other energy generating facilities are heavy industrial uses, except geothermal, hydroelectric, wind, and solar facilities may be regulated differently than other types of power plants by implementing zoning." However, the Land Use Element recognizes that geothermal plants, a similar use to the extent that it represents a renewable energy resource, are permitted uses within the "Agriculture" land use category, so long as a CUP is issued and environmental review is completed. The proposed solar energy facility portion of the Proposed Action would require issuance of a CUP (CUP#10-0012) and an environmental analysis. No General Plan land use amendment would be required for construction and operation of a solar energy facility.

Table 4.2-1 provides an analysis of the proposed solar energy facility's consistency with applicable General Plan goals and policies. Similar to the Proposed Action, the proposed solar energy facility proposed under the Alternative 1-Alternative Transmission Line Corridor is considered to be in substantial conformance with the goals and objectives as identified in Table 3.2-1. "An action, program, or project is consistent with the general plan if, considering all its aspects it will further the objectives and policies of the general plan and not obstruct their attainment." *Corona-Norco Unified School Dist. V. City of Corona* (1993) 17 Cal.App.4th 985.944 [emphasis added].

County of Imperial Land Use Ordinance

As discussed above under the Proposed Action, with obtainment of a variance for the height of the transmission towers on the solar energy facility site, no significant impact related to the County of Imperial Land Use Ordinance would occur for Alternative 1-Alternative Transmission Line Corridor. Therefore, with the necessary findings and approval of the variance for height, no significant impact under CEQA has been identified.

Airport Land Use Compatibility Plan (ALUCP)

Similar to the Proposed Action, as discussed above, the solar energy facility site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The solar generating facility and new transmission lines are located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). According to Appendix D Compatibility Guidelines for Specific Land Uses of the ALUCP, "Power Lines" and "Power Plants" are all identified as "Compatible" within the Compatibility Zone D. Furthermore, on June 16, 2010, the Airport Land Use Commission (ALUC) determined that this portion of the Alternative 1-Alternative Transmission Line Corridor is consistent with the ALUCP and no height restrictions are required. Therefore, the proposed solar energy facility and associated transmission towers on the solar energy facility site have been determined to be consistent with the adopted ALUCP. Although no specific compatibility

requirements are required with the implementation of the Alternative 1-Alternative Transmission Line Corridor per the ALUCP, the applicant would be required to comply with the criteria as identified in 14 CFR Part 77.13 in order to construct the project. Based on a review of the criteria, the project is not required to provide notice pursuant to FAA 14 CFR Part 77.13, because the project doesn't meet any of the criteria requirements. Therefore, no significant impact under CEQA is identified for this issue area.

C. Conservation Plans

Indicator 3: Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Alternative 1-Alternative Transmission Line Corridor area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The County of Imperial is not within the boundary of any adopted HCP or NCCP. The proposed transmission line corridor would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA. Therefore, Alternative 1-Alternative Transmission Line Corridor would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP for CEQA purposes.

California Desert Conservation Area Plan, 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor for the Alternative 1-Alternative Transmission Line Corridor is located entirely within the designated Utility Corridor "N" (Figure 3.2-3). The proposed transmission lines would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to biological resources, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. Mitigation Measures B3, B4, B5, B9 and B10 detailed in Section 4.12 Biological Resources have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, with the implementation of Mitigation Measures B3, B4, B5, B9 and B10 no impact under CEQA is identified for this issue area.

Compatibility with Adjacent Uses

Similar to the Proposed Action as discussed above, no significant impact under CEQA associated with the Alternative 1-Alterantive Transmission Line Corridor's compatibility with adjacent uses is anticipated.

4.2.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Divide Established Community

Indicator 1: Physically divide an established community.

As with the Proposed Action, the area of Alternative 2-Alternative Transmission Line Corridor is currently vacant (was previously used for agricultural purposes) and desert. Development and operation of the Alternative 2-Alternative Transmission Line Corridor would not divide the community as no development exists within, or in the surrounding area of the site and the project would not physically divide a community. Additionally, as discussed in Section 4.8 of this EIR/EA, no physical impact, such as noise, which could conflict with adjacent uses, has been identified with Alternative 2-Alternative Transmission Line Corridor. Therefore, this issue is not considered a significant impact under CEQA.

B. Existing Land Use Plans, Policies and Regulations

Indicator 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Federal Land Management Policy Act, 1976

Similar to the Proposed Action, the transmission line corridor proposed under Alternative 2-Alternative Transmission Line Corridor would be consistent with the provisions of the FLMPA because this proposed transmission corridor would be located approximately 1,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line through BLM lands. The solar energy portion of the site is on privately owned land and is therefore not subject to the FLMPA. For these reasons, Alternative 2-Alternative Transmission Line Corridor would not conflict with the FLMPA. Therefore, Alternative 2-Alternative Transmission Line Corridor's effect is not considered a significant impact under CEQA.

California Desert Conservation Area Plan 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor and access road through BLM lands for Alternative 2-Alternative Transmission Line Corridor is located entirely within the CDCA-designated Utility Corridor "N." The proposed transmission lines and access road would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to biological resources for Alternative 2-Alternative Transmission Line Corridor, as discussed in EIR/EA Sections 4.7 Cultural Resources and 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive biological resources and cultural resources. Alternative 2-

Alternative Transmission Line Corridor is designed to be consistent with the CDCA Plan, Yuha Desert Basin ACEC Management Plan, and FTHL RMS. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B3, B4, B5, B11, and B12 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Section 4.7 contains Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered), which are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. Therefore, similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

Similar to the Proposed Action, the County's General Plan applies only to the solar energy facility portion of Alternative 2-Alternative Transmission Line Corridor, because that is the only portion of the project site located within the jurisdiction of the County of Imperial. The transmission line portion of the project is under the jurisdiction of the BLM. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, other than a statement in the Imperial County Land Use Element that "Electrical and other energy generating facilities are heavy industrial uses, except geothermal, hydroelectric, wind, and solar facilities may be regulated differently than other types of power plants by implementing zoning." However, the Land Use Element recognizes that geothermal plants, a similar use to the extent that it represents a renewable energy resource, are permitted uses within the "Agriculture" land use category, so long as a CUP is issued and environmental review is completed. The proposed solar facility portion of the Proposed Action would require issuance of a CUP (CUP#10-0012) and an environmental analysis. No General Plan land use amendment would be required for construction and operation of a solar energy facility.

Table 4.2-1 provides an analysis of the proposed solar energy facility's consistency with applicable General Plan goals and policies. Similar to the Proposed Action, the proposed solar energy facility proposed under the Alternative 2-Alternative Transmission Line Corridor is considered to be in substantial conformance with the goals and objectives as identified in Table 3.2-1. "An action, program, or project is consistent with the general plan if, considering all its aspects it will further the objectives and policies of the general plan and not obstruct their attainment." *Corona-Norco Unified School Dist. V. City of Corona* (1993) 17 Cal.App.4th 985.944 [emphasis added].

County of Imperial Land Use Ordinance

As discussed above under the Proposed Action, with obtainment of a variance for the height of the transmission towers on the solar energy facility site, no significant impact related to the County of Imperial Land Use Ordinance would occur for Alternative 2-Alternative Transmission Line Corridor. Therefore, with the necessary findings and approval of the variance for height, no significant impact under CEQA has been identified.

Airport Land Use Compatibility Plan (ALUCP)

Similar to the Proposed Action, as discussed above, the solar energy facility site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The solar generating facility and new transmission lines are located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D", which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). According to Appendix D Compatibility Guidelines for Specific Land Uses of the ALUCP, "Power Lines" and "Power Plants" are all identified as "Compatible" within the Compatibility Zone D. Furthermore, on June 16,2010, the Airport Land Use Commission (ALUC) determined that this portion of the Alternative 2-Alternative Transmission Line Corridor is consistent with the ALUCP and no height restrictions are required. Therefore, the proposed solar energy facility and associated transmission towers on the solar energy facility site have been determined to be consistent with the adopted ALUCP. Although no specific compatibility requirements are required with the implementation the Alternative 2-Alternative Transmission Line Corridor per the ALUCP, the applicant would be required to comply with the criteria as identified in 14 CFR Part 77.13 in order to construct the project. Based on a review of the criteria, the project is not required to provide notice pursuant to FAA 14 CFR Part 77.13, because the project doesn't meet any of the criteria requirements. Therefore, no significant impact under CEQA is identified for this issue area.

C. Conservation Plans

Indicator 3: Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Alternative 2-Alternative Transmission Line Corridor area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The County of Imperial is not within the boundary of any adopted HCP or NCCP. The proposed transmission line corridor including the access road would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA. Therefore, Alternative 2-Alternative Transmission Line Corridor would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP for CEQA purposes.

California Desert Conservation Area Plan, 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor for the Alternative 2-Alternative Transmission Line Corridor is located entirely within the designated Utility Corridor "N" (Figure 3.2-3). The proposed transmission lines would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to biological resources, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. As discussed in EIR/EA Section 4.12 Biological Resources, Mitigation Measures B3, B4, B5, B11, and B12 have also been identified to address potential direct and indirect impacts to biological

resources located within the ACEC. Therefore, with the implementation of Mitigation Measures B3, B4, B5, B11, and B12 no impact under CEQA is identified for this issue area.

Compatibility with Adjacent Uses

Similar to the Proposed Action as discussed above, no significant impact under CEQA associated with the Alternative 2-Alterantive Transmission Line Corridor's compatibility with adjacent uses is anticipated.

4.2.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Divide Established Community

Indicator 1: Physically divide an established community.

As with the Proposed Action, the area of Alternative 3-Reduced Solar Energy Facility Site is currently vacant (was previously used for agricultural purposes) and desert. Development and operation of the Alternative 3-Reduced Solar Energy Facility would not divide the community as no development exists within, or in the surrounding area of the site and the project would not physically divide a community. Additionally, as discussed in Section 4.8, no physical impact such as noise, which could conflict with adjacent uses has been identified with Alternative 3-Reduced Solar Energy Facility Site. Therefore, this issue is not considered a significant impact under CEQA.

B. Existing Land Use Plans, Policies and Regulations

Indicator 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Federal Land Management Policy Act, 1976

Similar to the Proposed Action, the transmission line corridor proposed under Alternative 3-Reduced Solar Energy Facility Site would be consistent with the provisions of the FLMPA because this proposed transmission corridor would be located approximately 2,600 feet from the existing Southwest Powerlink 500 kV transmission line and would parallel the proposed Dixieland 230 kV transmission line through BLM lands. The solar energy facility portion of the site is on privately owned land and is therefore not subject to the FLMPA. For these reasons, Alternative 3-Reduced Solar Energy Facility Site would not conflict with the FLMPA. Therefore, Alternative 3-Reduced Solar Energy Facility Site's effect is not considered a significant impact under CEQA.

California Desert Conservation Area Plan 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor and access road through BLM lands for Alternative 3-Reduced Solar Energy Facility Site are located entirely within the CDCA-designated Utility Corridor "N." The proposed transmission lines and access road would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to biological resources for Alternative 3-Reduced Solar Energy Facility Site, as discussed in EIR/EA Sections 4.7 Cultural Resources and 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive biological resources and cultural resources. Alternative 3-Reduced Solar Energy Facility Site is designed to be consistent with the CDCA Plan, Yuha Desert Basin ACEC Management Plan, and FTHL RMS. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B3, B4, B5, B14, and B15 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Section 4.7 contains Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered), which are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. Therefore, similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

Similar to the Proposed Action, the County's General Plan applies only to the solar energy facility portion of Alternative 3-Reduced Solar Energy Facility, because that is the only portion of the project site located within the jurisdiction of the County of Imperial. The transmission line portion of the project is under the jurisdiction of the BLM. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, other than a statement in the Imperial County Land Use Element that "Electrical and other energy generating facilities are heavy industrial uses, except geothermal, hydroelectric, wind, and solar facilities may be regulated differently than other types of power plants by implementing zoning." However, the Land Use Element recognizes that geothermal plants, a similar use to the extent that it represents a renewable energy resource, are permitted uses within the "Agriculture" land use category, so long as a CUP is issued and environmental review is completed. The proposed solar energy facility portion of the Proposed Action would require issuance of a CUP (CUP#10-0012) and an environmental analysis. No General Plan land use amendment would be required for construction and operation of a solar energy facility.

Table 4.2-1 provides an analysis of the proposed solar energy facility's consistency with applicable General Plan goals and policies. Similar to the Proposed Action, the proposed solar energy facility proposed under the Alternative 3-Reduced Solar Energy Facility is considered to be in substantial conformance with the goals and objectives as identified in Table 3.2-1. "An action, program, or project is consistent with the general plan if, considering all its aspects it will further the objectives and policies of the general plan and not obstruct their attainment." *Corona-Norco Unified School Dist. V. City of Corona* (1993) 17 Cal.App.4th 985.944 [emphasis added].

County of Imperial Land Use Ordinance

As discussed above under the Proposed Action, with obtainment of a variance for the height of the transmission towers on the solar energy facility site, no significant impact related to the County of Imperial Land Use Ordinance would occur for Alternative 3-Reduced Solar Energy Facility. Therefore, with the

necessary findings and approval of the variance for height, no significant impact under CEQA has been identified.

Airport Land Use Compatibility Plan (ALUCP)

Similar to the Proposed Action, as discussed above, the solar energy facility site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The solar generating facility and new transmission lines are located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D", which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). According to Appendix D Compatibility Guidelines for Specific Land Uses of the ALUCP, "Power Lines" and "Power Plants" are all identified as "Compatible" within the Compatibility Zone D. Furthermore, on June 16,2010, the Airport Land Use Commission (ALUC) determined that this portion of the Alternative 3-Reduced Solar Energy Facility is consistent with the ALUCP and no height restrictions are required. Therefore, the proposed solar energy facility and associated transmission towers on the solar energy facility site have been determined to be consistent with the adopted ALUCP. Although no specific compatibility requirements are required with the implementation of the Alternative 3-Reduced Solar Energy Facility Site per the ALUCP, the applicant would be required to comply with the criteria as identified in 14 CFR Part 77.13 in order to construct the project. Based on a review of the criteria, the project is not required to provide notice pursuant to FAA 14 CFR Part 77.13, because the project doesn't meet any of the criteria requirements. Therefore, no significant impact under CEQA is identified for this issue area.

C. Conservation Plans

Indicator 3: Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Alternative 3-Reduced Solar Energy Facility Site area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The County of Imperial is not within the boundary of any adopted HCP or NCCP. The proposed transmission line corridor including the access road would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP for CEQA purposes.

California Desert Conservation Area Plan, 1980, as amended

Similar to the Proposed Action, the proposed transmission line corridor for the Alternative 3-Reduced Solar Energy Facility is located entirely within the designated Utility Corridor "N" (Figure 3.2-3). The proposed transmission lines would be considered an allowed use, as they would be located within a designated utility corridor (Utility Corridor "N").

Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan and Flat-tailed Horned Lizard Rangewide Management Strategy

Similar to the Proposed Action, proposed impacts to biological resources, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. As discussed in EIR/EA Section 4.12 Biological Resources, Mitigation Measures B3, B4, B5, B14, and B15 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, with the implementation of Mitigation Measures B3, B4, B5, B14, and B15 no impact under CEQA is identified for this issue area.

Compatibility with Adjacent Uses

Similar to the Proposed Action as discussed above, no significant impact under CEQA associated with the Alternative 3-Reduced Solar Energy Facility Site compatibility with adjacent uses is anticipated.

4.2.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, no land use impacts would occur from the Alternative 4-No Action/No Project Alternative.

4.2.1.6 CEQA Summary

With the implementation of Mitigation Measures B1 (Mitigation of Impacts to Vegetation Communities-Proposed Action), B3 (FTHL Mitigation Measures), B4 (O&M Mitigation), B5 (Burrowing Owl), B9 (Mitigation of Impacts to Vegetation Communities: Alternative 1-Alternative Transmission Line Corridor), B10 (FTHL Compensation: Alternative 1-Alternative Transmission Line Corridor), B11 (Mitigation of Impacts to Vegetation Communities: Alternative 2-Alternative Transmission Line Corridor), B12 (FTHL Compensation: Alternative 2-Alternative Transmission Line Corridor), B14 (Mitigation of Impacts to Vegetation Communities: Alternative 3-Reduced Solar Energy Facility Site) and B15 (FTHL Compensation: Alternative 3-Reduced Solar Energy Facility Site) as identified in EIR/EA Section 4.12 Biological Resources and Mitigation Measures CR1, CR2, and CR3 (EIR/EA Section 4.7 Cultural Resources), land use impacts under CEQA associated with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be reduced to a level less than significant.

Implementation of the Alternative 4-No Action/No Project Alternative will not result in land use impacts under CEQA. Therefore, no mitigation is required.

4.2.2 NEPA Environmental Assessment

4.2.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

The proposed transmission line will be located within an existing utility corridor (Corridor "N") as designated in the CDCA. There is no plan amendment or modification of the existing plan included as part of the Proposed Action. The corridor currently contains three transmission lines, access roads, and other facilities.

The addition of another transmission line will not impact the management of the corridor; however considerations for placing the line in the corridor may affect future development. Since the corridors are finite in size and capacity there is a possibility of needing a future plan amendment to widen, expand, or relocate portions of the corridor. The indicators below summarize the impacts in relation to the existing setting and are employed as a comparison of impacts or possible scenarios that may affect a subsequent decision.

Based on the analysis provided above under Section 4.2.1.1, the Proposed Action is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated and used for utility corridors. Development and operation of the Proposed Action would not divide a community as no established community exists within, or surrounding the project site, nor would the Proposed Action physically divide a community.

The proposed solar energy facility is an allowed use within the existing zoning of the site, subject to a conditional use permit. As part of the Proposed Action, a CUP application has been filed, which would allow the uses of the Proposed Action to occur within the A-2, A-2-R and A-3 zones. Although a variance would be required to allow the height of the transmission towers on the solar facility site, transmission towers are allowed within the existing zoning of the site and within the CDCA designated corridor "N" and will not require action by the County.

As discussed above under Section 4.2.1.1, the portion of the Proposed Action located within BLM lands is located entirely within the CDCA-designated Utility Corridor "N." The Proposed Action is designed to be consistent with the CDCA Plan, Yuha Desert ACEC Management Plan, and FTHL RMS.

B. Alternative 1-Alternative Transmission Line Corridor

The Land Use impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for the Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Land Use impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Land Use impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.2.1.5, the project would not be constructed if Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect land use impacts would result from the Alternative 4-No Action/No Project Alternative.

4.2.3 Mitigation Measures and Residual Impacts

With the implementation of Mitigation Measures B1 (Mitigation of Impacts to Vegetation Communities-Proposed Action), B3 (FTHL Mitigation Measures), B4 (O&M Mitigation), B5 (Burrowing Owl), B9 (Mitigation of Impacts to Vegetation Communities: Alternative 1-Alternative Transmission Line Corridor), B10 (FTHL Compensation: Alternative 1-Alternative Transmission Line Corridor), B11 (Mitigation of Impacts to Vegetation Communities: Alternative 2-Alternative Transmission Line Corridor), B12 (FTHL Compensation: Alternative 2-Alternative Transmission Line Corridor), B14 (Mitigation of Impacts to Vegetation Communities: Alternative 3-Reduced Solar Energy Facility Site) and B15 (FTHL Compensation: Alternative 3-Reduced Solar Energy Facility Site) as identified in EIR/EA Section 4.12 Biological Resources and Mitigation Measures CR1, CR2, and CR3 (EIR/EA Section 4.7 Cultural Resources), land use impacts under CEQA associated with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be reduced to a level less than significant.

As discussed in EIR/EA Sections 4.7, 4.9, and 4.12, implementation of these mitigation measures would not result in any direct or indirect impacts. Therefore, the residual impacts would be the same as the impacts described above, as well as those impacts not directly or indirectly affecting land use.

The Alternative 4-No Action/No Project Alternative will not result in land use impacts under CEQA and no mitigation is required.

4.3 Transportation/Circulation

Information contained in this section is summarized from the *Traffic Impact Analysis* prepared by LOS Engineering, Inc. (August 2, 2010). This document is provided on the attached CD of Technical Appendices as Appendix B of this EIR/EA.

CEQA Significance Criteria

For purposes of this EIR/EA, a Transportation/Circulation impact, under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);*

Indicator 2: *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;*

Indicator 3: *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);*

Indicator 4: *Result in inadequate emergency access;*

Indicator 5: *Result in inadequate parking capacity; or,*

Indicator 6: *Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

The County of Imperial's goal is that intersections and roadway segments operate at LOS C or better. In general, a location operating at LOS C or better under existing conditions that degrades to a LOS D or worse is considered a significant direct impact under CEQA. The current practice of determining direct and cumulative impacts in Imperial County is defined by the criteria provided in Table 4.3-1.

NEPA Methodology

Evaluation of the Proposed Action's impacts on Transportation/Circulation issues for NEPA purposes was framed using the above-mentioned CEQA indicators, because those indicators capture the range of potential Transportation/Circulation impacts that could occur as a result of the Proposed Action and Alternatives.

4.3.1 CEQA Environmental Analysis

4.3.1.1 Proposed Action

A. Project Trip Generation

The Proposed Action trip generation consists of a construction phase and operation phase. The construction phase (short-term) will have the highest intensity of trips followed by an operations phase with substantially fewer tips. The following describes the trip generations for the project.

TABLE 4.3-1
County of Imperial Significance Criteria

Existing	Existing Project	Existing + Project + Cumulative Projects	Impact Type
Intersections			
LOS C or better	LOS C or better	LOS C or better	None
LOS C or better	LOS D or worse	N/A	Direct
LOS D	LOS D and adds 2.0 seconds or more of delay	LOS D or worse	Cumulative
LOS D	LOS E or F	N/A	Direct
LOS E	LOS F	N/A	Direct
Any LOS	Project does not degrade LOS and adds < 2.0 seconds of delay	Any LOS	None
Any LOS	Project does not degrade LOS but adds 2.0 to 9.9 seconds of delay	LOS E or worse	Cumulative
Segments			
LOS C or better	LOS C or better	LOD C or better	None
LOS C or better	LOS C or better and v/c > 0.02	LOS D or worse	Cumulative
LOS C or better	LOS D or worse	N/A	Direct (1)
LOS D	LOS D and v/c > 0.02	LOS D or worse	Cumulative
LOS D	LOS E or F	N/A	Direct
LOS E	LOS F	N/A	Direct
LOS F	LOS F and v/c increases by >0.09	LOS F	Direct
Any LOS	LOS E or worse and v/c 0.02 to 0.09	LOS E or worse	Cumulative
Any LOS	LOS E or worse and v/c < 0.02	Any LOS	None

Notes: LOS = Level of Service; V/C = volume to capacity ratio; (1) Exception: post-project segment operation is LOS D and intersections along segment are LOS D or better resulting in no significant impact. N/A = Not Applicable.

Source: LOS Engineering, Inc., 2010

Construction

Construction of the Proposed Action includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. These construction activities are expected to require approximately 17 months. The construction of the solar energy facility will require approximately 17 months, while the transmission line and associated access road will require approximately 17 to 20 weeks within the 17 month construction phase. The construction workforce is expected to reach a peak of approximately 285 workers with hours generally between 7am and 3 pm Monday through Friday. Additionally, equipment deliveries and construction trucks will serve the project site. The highest intensity construction phase of the project is calculated to generate 750 ADT with 306 AM peak hour trips (300 inbound and 6 outbound) and 315 PM peak hour trips (15 inbound and 300 outbound) as shown in Table 4.3-2.

Proposed Action Operations and Maintenance Trip Generation

The Proposed Action will primarily operate during daylight hours and will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. Based on this information, the operations and maintenance trip generation is estimated at 10 to 15 ADT with 4 AM and 4 PM peak hour trips. Therefore, the higher and more conservative construction trip generation, although only short-term in nature, is used to determine potential project impacts.

TABLE 4.3-2
Proposed Action Generation Summary

Proposed Construction Related Traffic	ADT	AM		PM	
		IN (7am)	OUT (7am)	IN (3pm)	OUT (3pm)
Peak Construction Workers (1)	570	285	0	0	285
Equipment Deliveries and Construction Truck Trips (with PCE) (2)	180	15	6	15	15
Total Traffic During Peak Construction Period	750	300	6	15	300

Notes: 1) Number of construction workers estimated by applicant. 2) Passenger Car Equivalent (PCE) factor of 3 applied to each truck; therefore, 180 ADT equals 30 daily trucks. Number of trucks on another power station with similar number of construction workers.

Source: LOS Engineering, Inc., 2010.

B. Proposed Action Construction Opening Day

The construction phase is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012 or approximately 24 months from the preparation of the traffic report. Therefore, the construction phase opening day is taken as Year 2012 in the traffic report. This represents the existing plus project traffic analysis scenario. The project description has a construction phase that has distinct peak and number of construction trip over a multiple year schedule. This construction peak does not occur at the project initiation, rather it occurs per the construction schedule that is anticipated to peak in the Year 2012. To account for the highest number of construction trips, the Year 2010 traffic was forecasted up to Year 2012 conditions and that peak construction traffic was added on top and analyzed. Therefore, the construction phase opening day is taken as Year 2012 in the traffic report. This represents the existing plus project traffic analysis scenario.

The opening year background volumes are based on increasing the existing Year 2010 volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. This document indicates that traffic projections should be based on demonstrated growth as detailed in the General Plan. For purposes of the traffic study, a more conservative growth rate of 2.8 percent was selected for the annual population growth rate. The Year 2012 volumes in the traffic report were factored up from Year 2010 data through the application of a 2.8% annual growth rate.

C. Construction Trip Distribution and Assignment (Drew Road Interchange Open)

The recent April 2010 earthquake was centered in Mexico south of the City of Calexico and damaged portions of Drew Road. As a result, Drew Road has been temporarily closed (subject to repair) at the time of traffic report preparation. Additionally, it is currently not known when Drew Road will be re-opened. Therefore, the traffic analysis includes two scenarios, with Drew Road open and Drew Road closed. This is most important as it relates to the construction phase of the project where the highest amount of traffic would be generated.

The labor pool for the project construction is anticipated to come primarily from within Imperial County and supplemented by specialists and/or equipment from outside of Imperial Valley. Local cities/residential communities within Imperial County are considered to include but are not limited to Calipatria, Westmorland, Brawley, Imperial, El Centro, Holtville, and Calexico. The distribution of the construction workforce by cities/communities was based on the concentration of populations per the Census 2000 from the U.S. Census Bureau. The percentage of local construction workforce by city/community and the county is provided in Table 4.3-3.

TABLE 4.3-3
Construction Workforce Sources Based on Census 2000 Populations (80% Local)

80% Local Workforce	2000 Census Population	Percentage of Total	Percentage of Construction Employees (80% from within Imperial County)
Calipatria	7,289	6%	5%
Westmorland	2,131	2%	2%
Brawley	22,052	20%	16%
Imperial	7,560	7%	5%
El Centro	37,835	35%	28%
Holtville	5,612	5%	4%
Calexico	27,109	25%	20%
Total	109,588	100%	80%

Source: LOS Engineering, Inc., 2010.

Based on the information provided in Table 4.3-3, the regional construction distribution is depicted in Figure 4.3-1 with the study area distribution is depicted in Figure 4.3-2. The trip assignment is depicted in Figure 4.3-3.

D. Construction Trip Distribution and Assignment (Drew Road Interchange Closed)

Due to recent seismic activity within Imperial Valley and neighboring areas, portions of Drew Road around the I-8 interchange have been closed. To account for these temporary closures, an alternative distribution is anticipated until Drew Road is repaired and opened. This alternative distribution is depicted in Figures 4.3-4 regionally and 4.3-5 for the study area. The trip assignment with the Drew Road interchange being temporarily closed is depicted in Figure 4.3-6.

E. Year (2012) plus Project Conditions (i.e., existing plus project)

Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Indicator 2: *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways.*

The following describes the conditions of the construction traffic onto Year 2012 conditions for the anticipated peak and midpoint of the project construction period. To account for the temporary closure of portions of Drew Road around the Interstate 8 interchange, two alternatives are analyzed: 1) the interchange at I-8 and Drew Road open; and, 2) the interchange at I-8 and Drew Road closed.

Year (2012) plus Project with Drew Road Interchange Open

This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 open for travel. Year 2012 plus project construction volumes are depicted in Figure 4.3-7. Intersection, segment, and freeway LOS are provided in Tables 4.3-4, 4.3-5, and 4.3-6, respectively.

Under Year 2012 plus project conditions with Drew Road Interchange open, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

Year (2012) + Project with Drew Interchange Closed

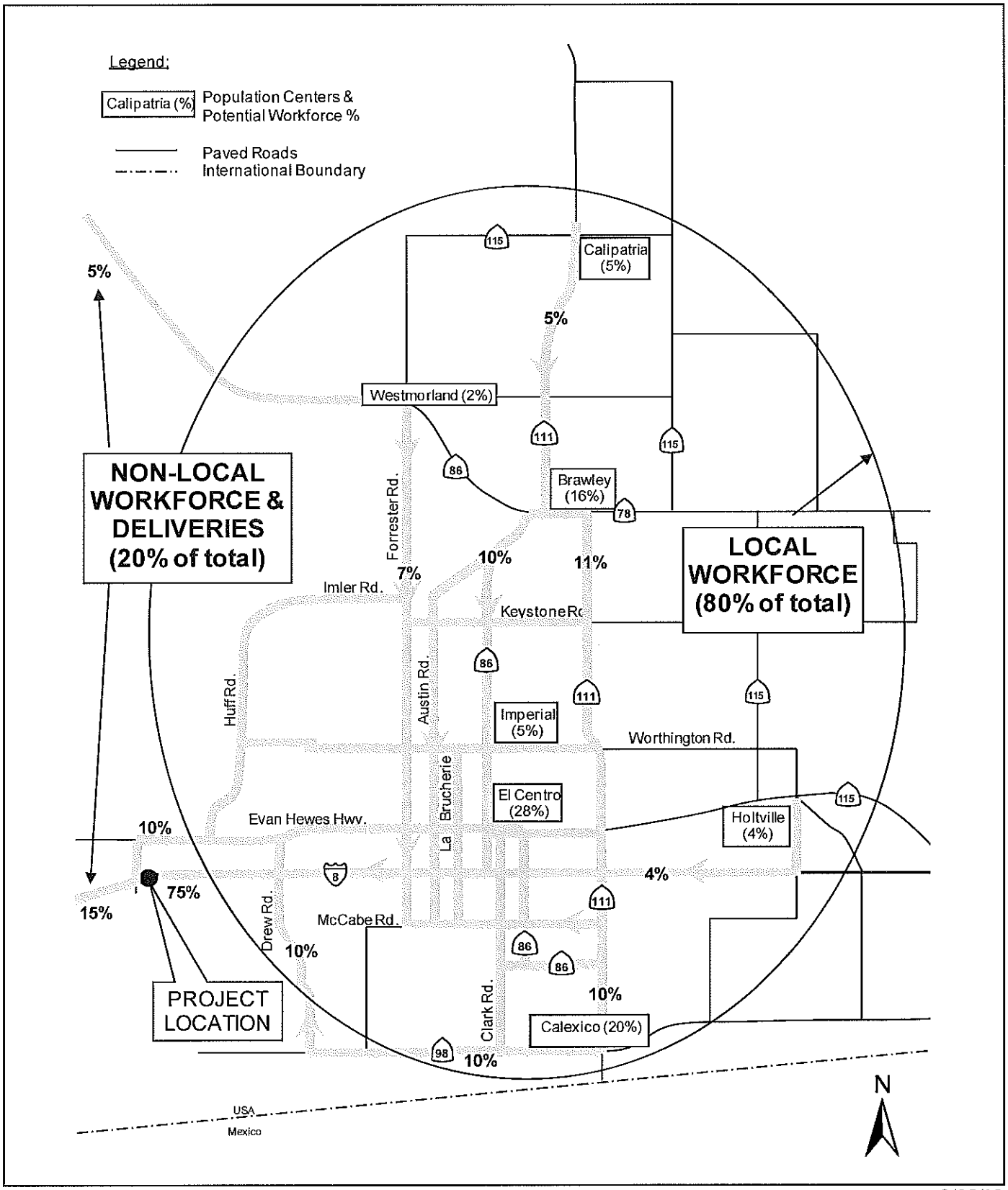
This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 closed for travel. Year 2012 plus project construction volumes are depicted in Figure 4.3-8. Intersection, segment, and freeway LOS are provided in Tables 4.3-7, 4.3-8, and 4.3-9, respectively.

Under Year 2012 plus project conditions with Drew Road Interchange closed, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

F. Hazards Due to a Design Feature

Indicator 3: *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

The Proposed Action would not change the existing surrounding circulation network. As such, the project will not substantially increase hazards due to a design feature. Therefore, no impact under CEQA is identified for this issue area.



SOURCE: LOS Engineering, Inc., 2010

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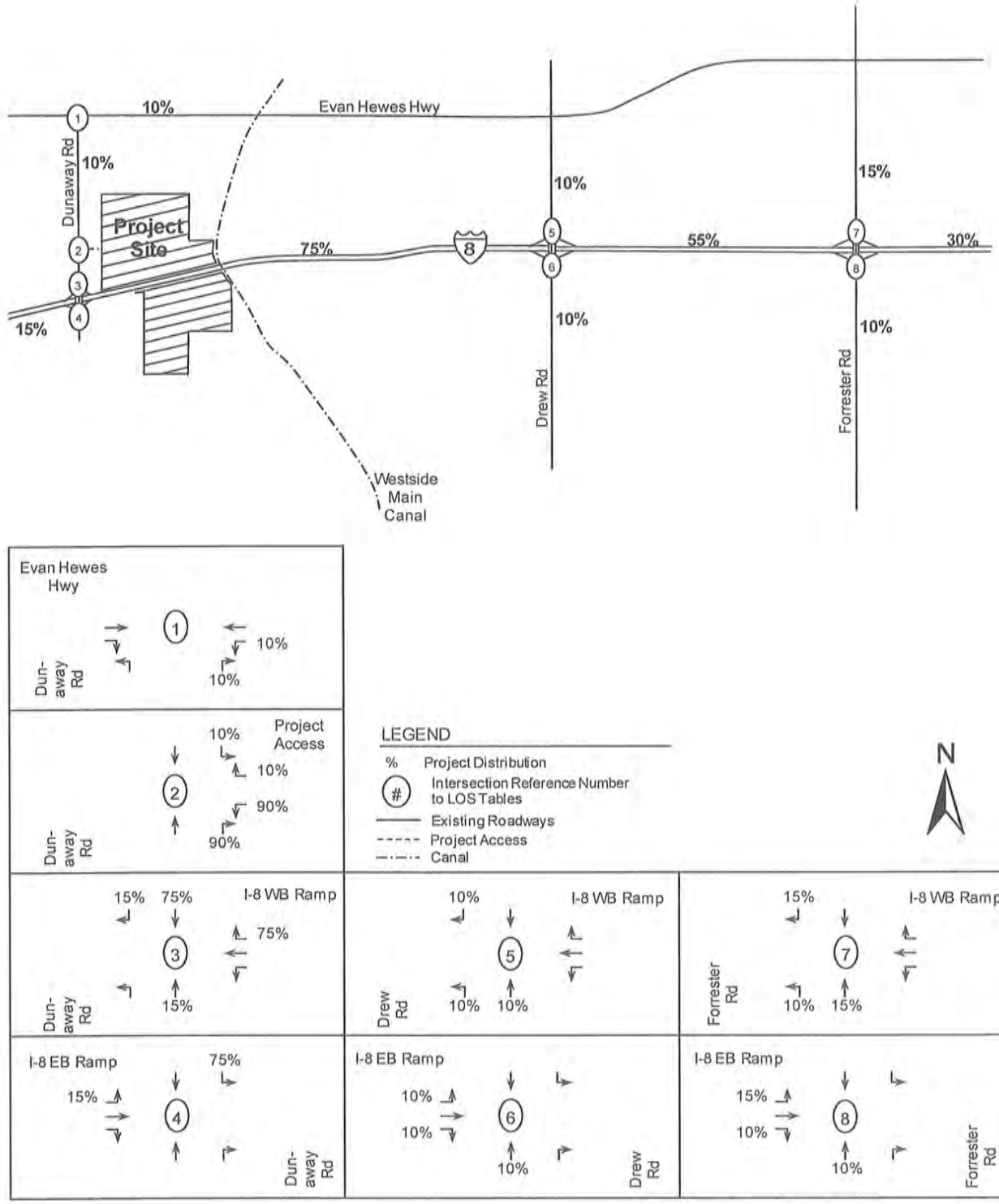
Imperial Solar Energy Center West

Regional Construction Distribution (Drew Interchange Open)

FIGURE 4.3-1

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-1 Reg Construction Dist.ai



SOURCE: LOS Engineering, Inc., 2010

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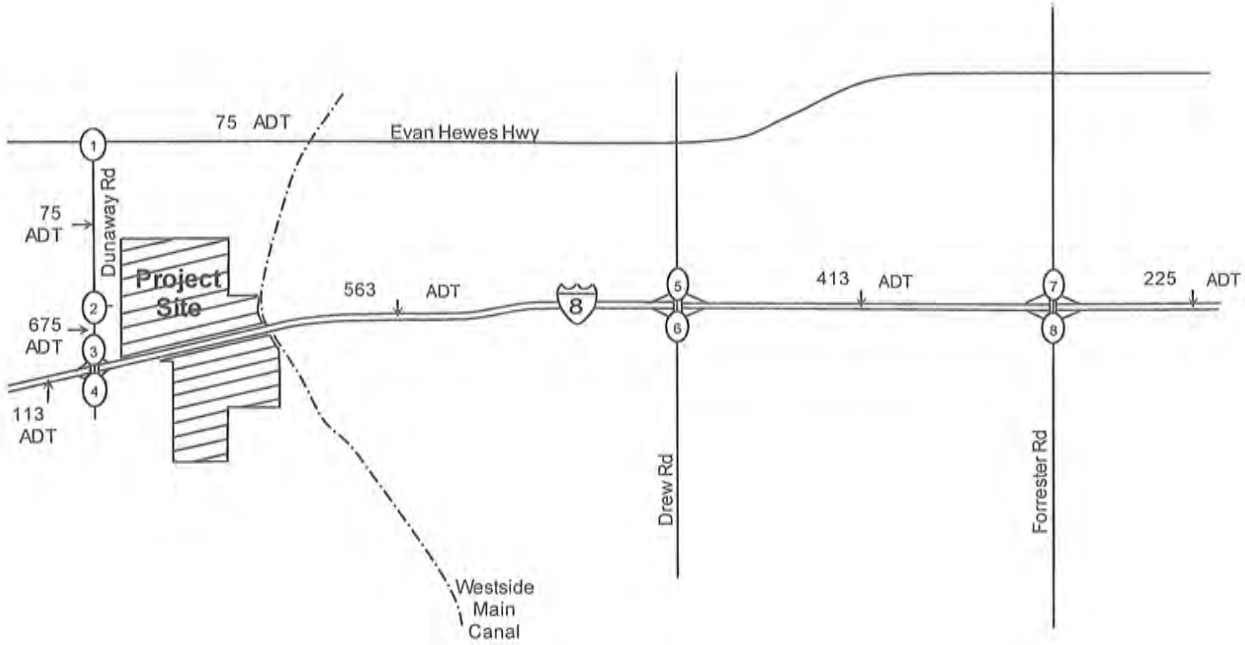
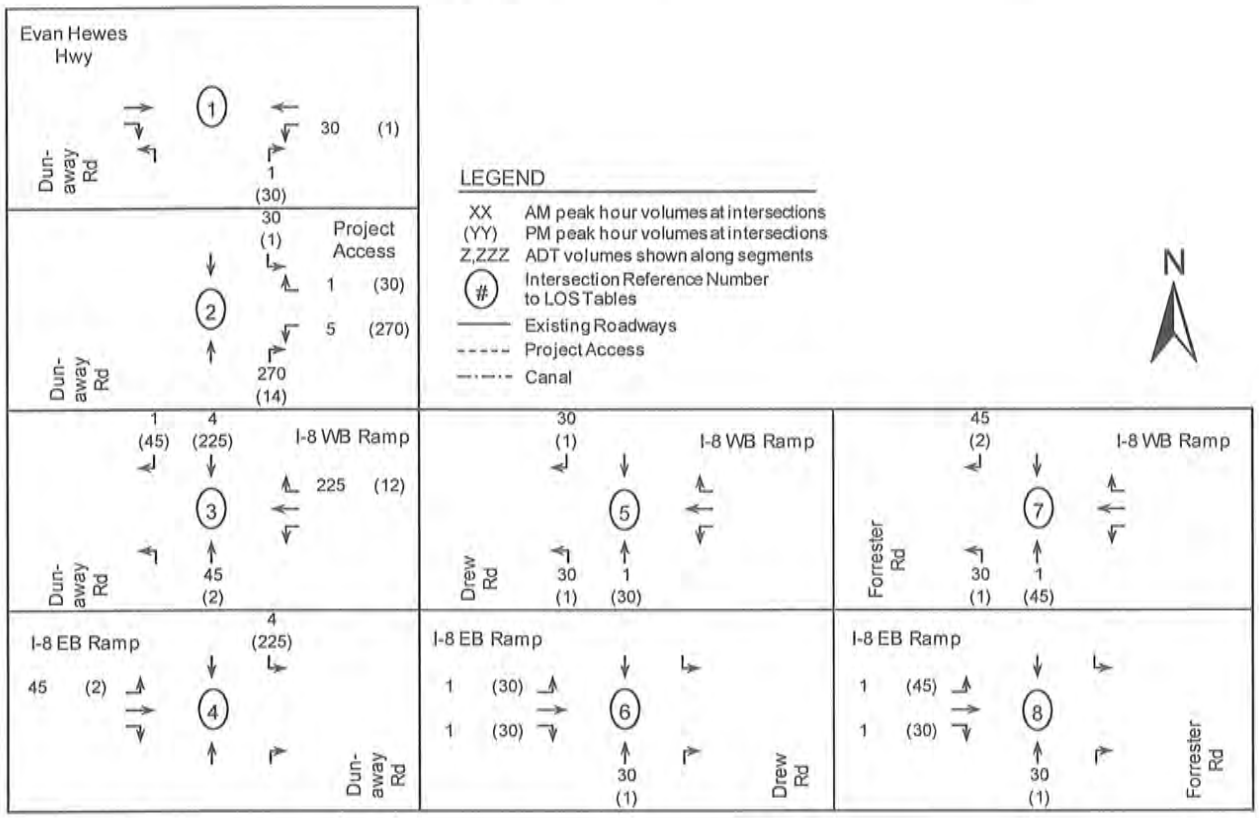
Imperial Solar Energy Center West

Local Construction Distribution (Drew Interchange Open)

FIGURE 4.3-2

F:\projects\1003 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-2 Local Construction Dist.ai





SOURCE: LOS Engineering, Inc., 2010

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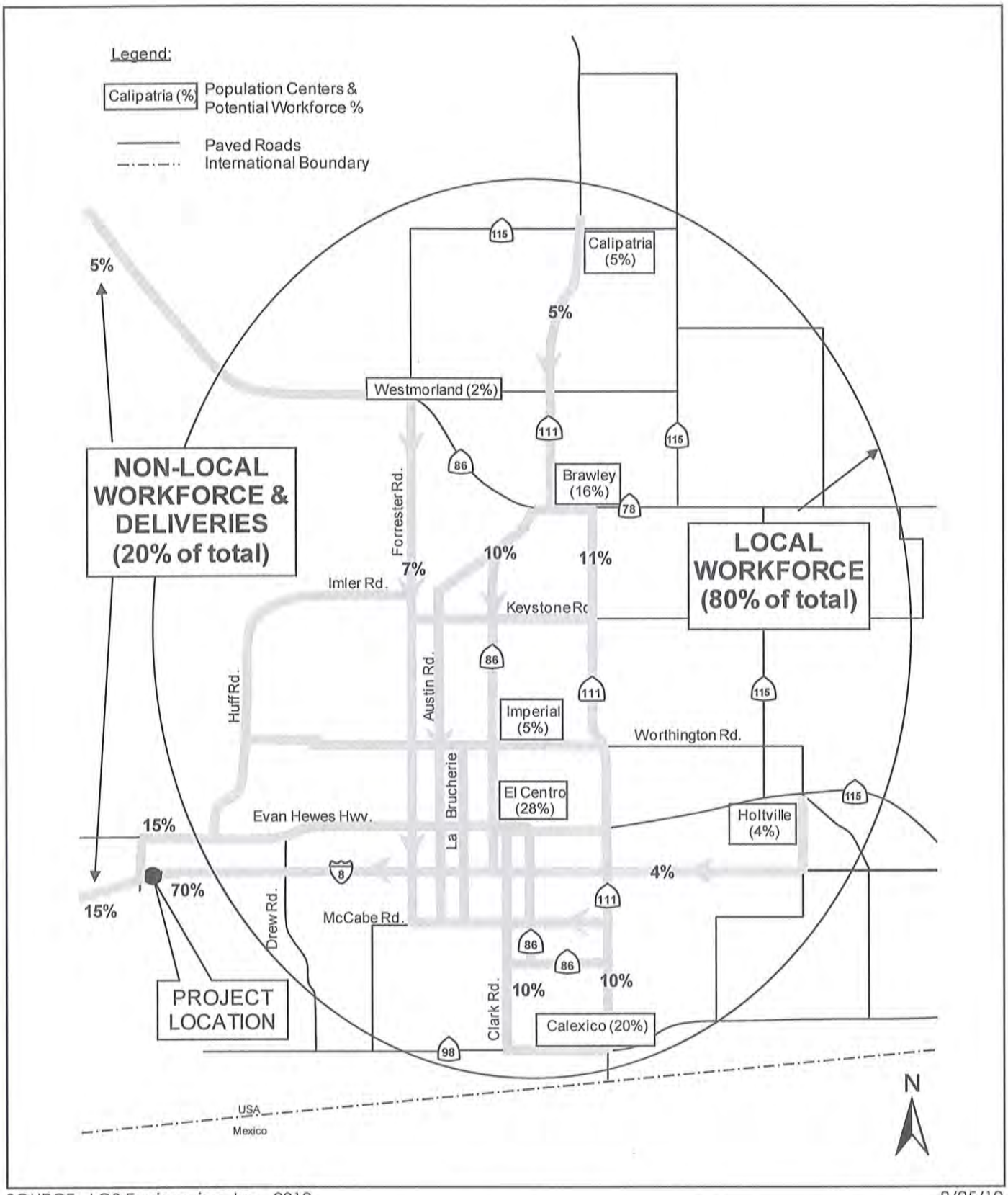
Construction Trip Assignment (Drew Interchange Open)

FIGURE 4.3-3

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-3 Construction Trip Assign.ai



SOURCE: LOS Engineering, Inc., 2010

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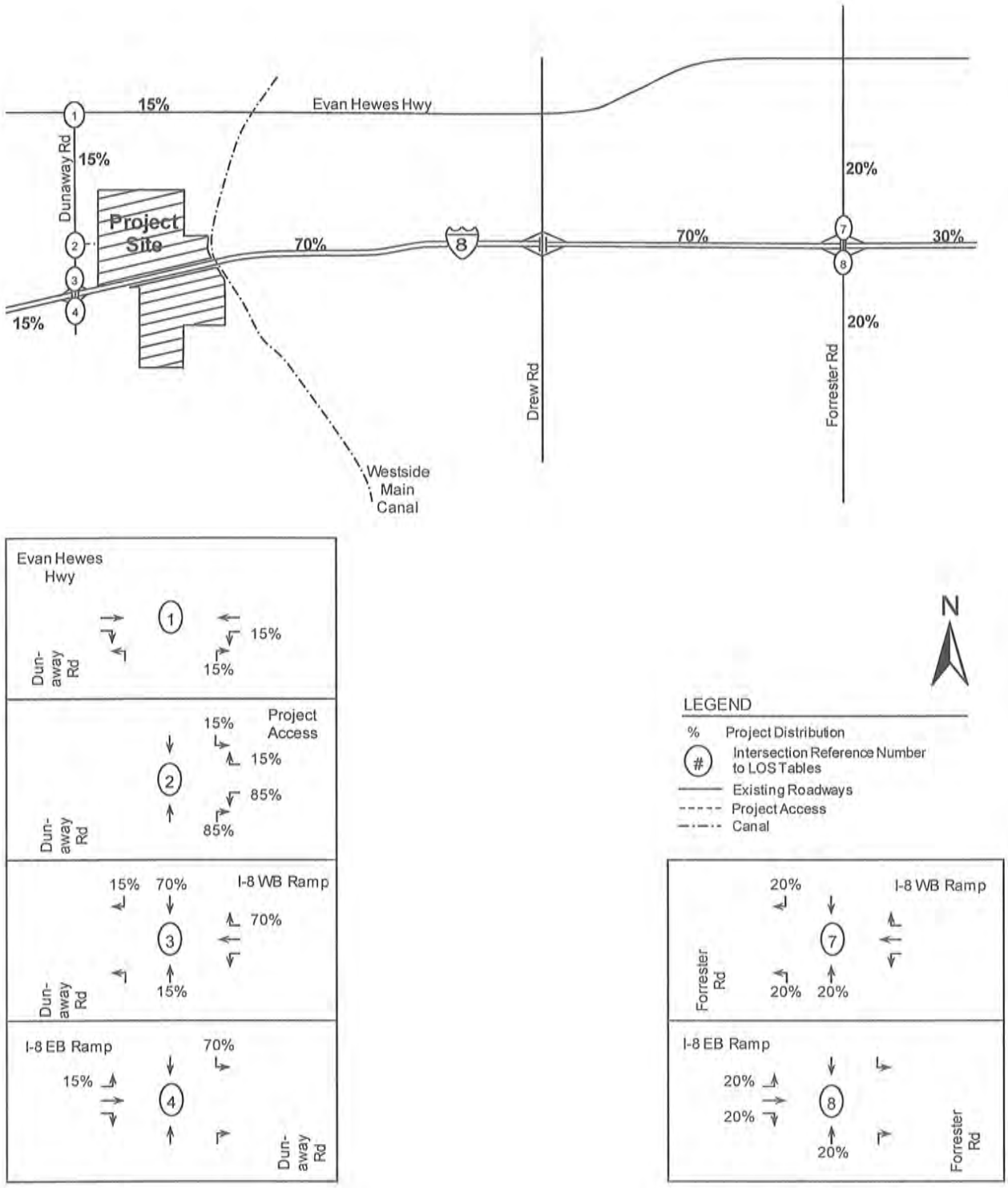
Regional Construction Distribution (Drew Interchange Closed)

FIGURE 4.3-4

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-4 Reg Construction Dist.ai



SOURCE: LOS Engineering, Inc., 2010

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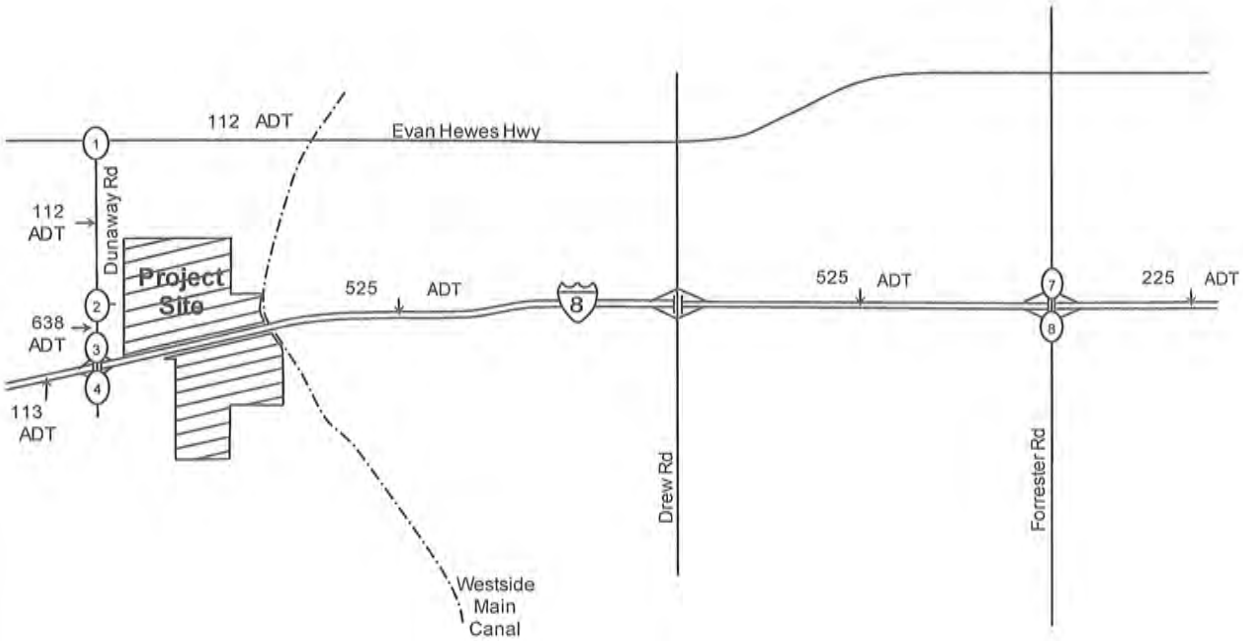
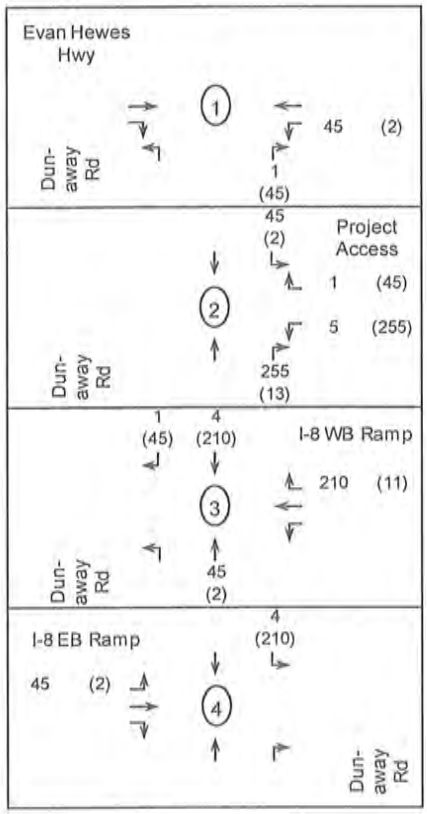
Local Construction Distribution (Drew Interchange Closed)

FIGURE 4.3-5

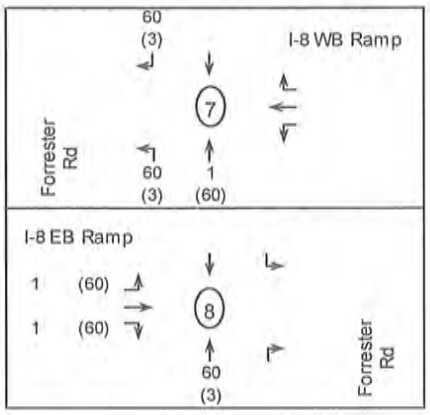
F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-5 Local Construction Dist.ai





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - -	Project Access
—·—·—	Canal



SOURCE: LOS Engineering, Inc., 2010

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Imperial Solar Energy Center West

Construction Trip Assignment (Drew Interchange Closed)

FIGURE 4.3-6

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-6 Con Trip Assignment.ai

G. Emergency Access

Indicator 4: Result in inadequate emergency access.

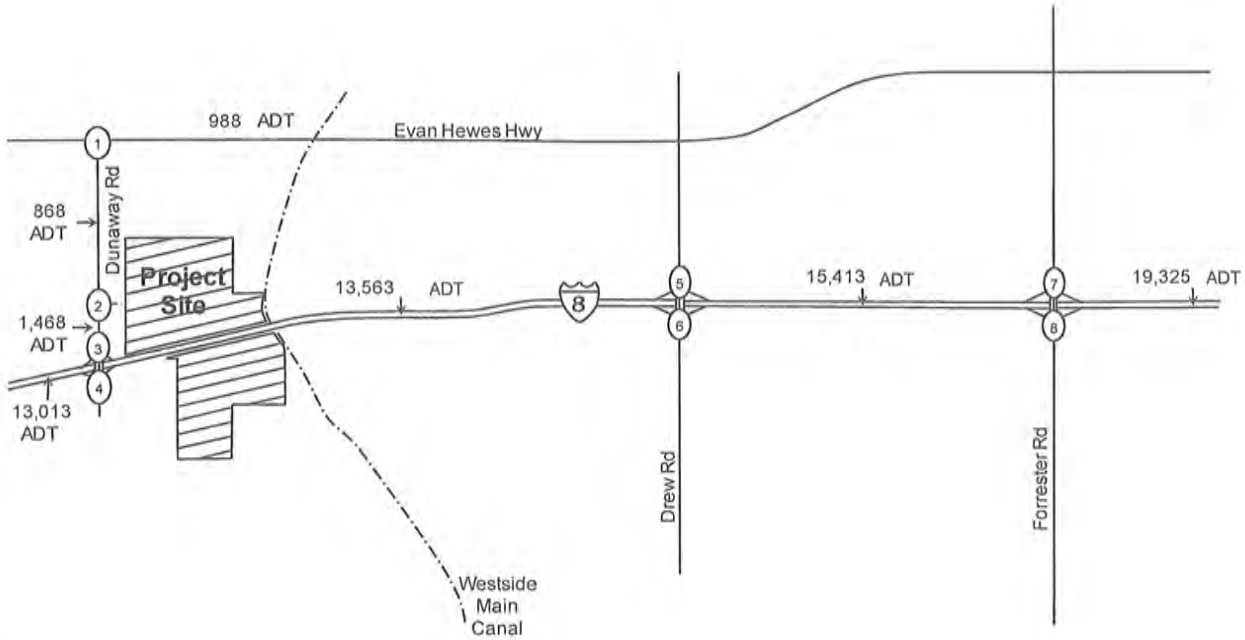
The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code. In addition, the project site is located in a rural agricultural area and would not block or close any emergency access points that would impact emergency access to other nearby areas. Thus, the Proposed Action will not result in inadequate emergency access and no impact under CEQA is identified for this issue area.

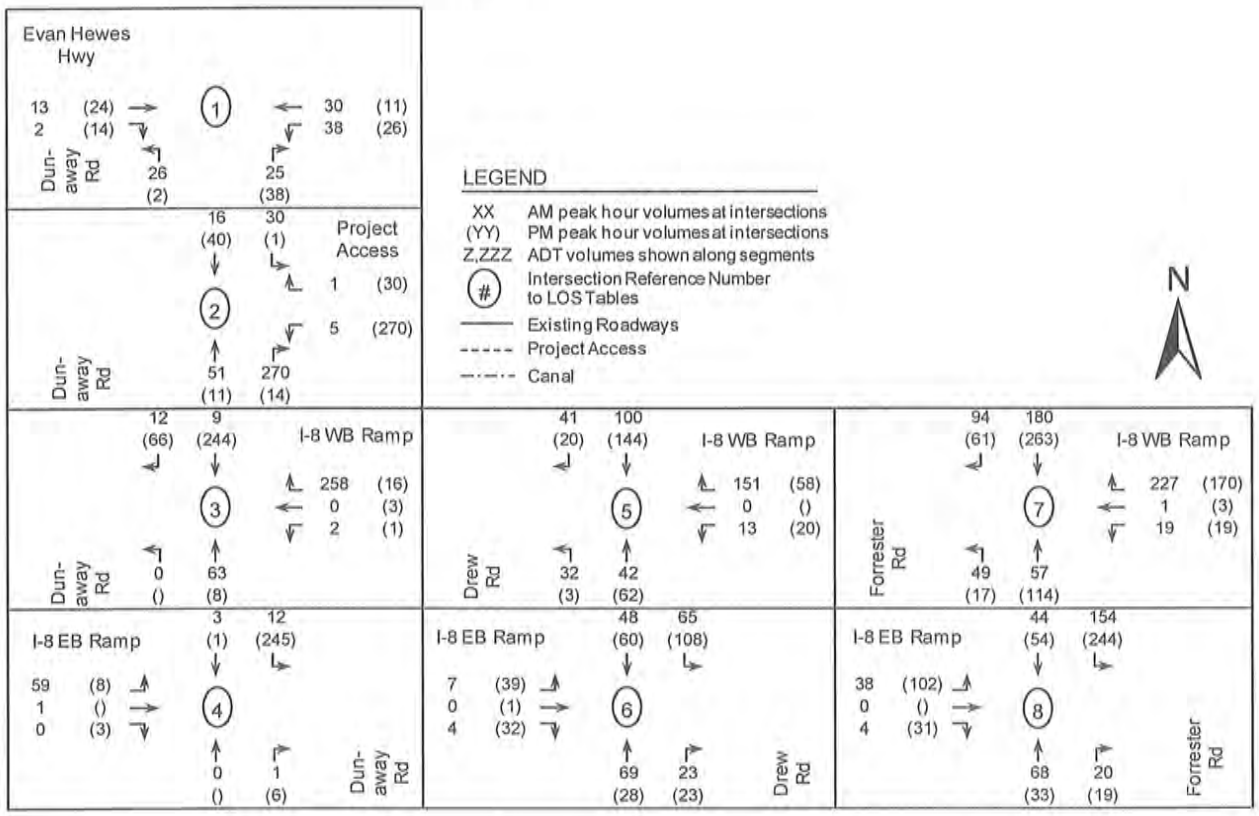
TABLE 4.3-4
Year (2012) Without and With Project Intersection LOS (Drew Road Interchange Open)

Intersection and (Control)[1]	Movement	Existing		Year (2012) + Project			
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Dunaway Road at	NB LR	8.8	A	9.1	A	0.3	No
Evan Hewes Hwy. (U)	NB LR	8.6	A	8.6	B	0.0	No
2) Dunaway Road at	WB LR	Does not	Does not	10.1	B	NA	No
Project Access (U)	WB LR	Exist	Exist	10.8	B	NA	No
3) Dunaway Road at	WB LR	8.5	A	10.0	B	1.5	No
I-8 WB Ramp (U)	WB LR	8.8	A	8.9	A	0.1	No
4) Dunaway Road at	EB LR	8.9	A	9.0	A	0.1	No
I-8 EB Ramp (U)	EB LR	8.7	A	12.6	B	3.9	No
5) Drew Road at	WB LR	9.2	A	9.3	A	0.1	No
I-8 WB Ramp (U)	WB LR	9.0	A	9.2	A	0.2	No
6) Drew Road at	EB LR	9.7	A	9.9	A	0.2	No
I-8 EB Ramp (U)	EB LR	10.9	B	11.1	B	0.2	No
7) Forrester Road at	WB LR	9.9	A	9.9	A	0.0	No
I-8 WB Ramp (U)	WB LR	9.8	A	10.2	B	0.4	No
8) Forrester Road at	EB LR	12.7	B	13.1	B	0.4	No
I-8 EB Ramp (U)	EB LR	17.8	C	17.9	C	0.1	No

Notes: (1) Intersection Control – (S) Signalized, (U) Unsignalized; (2) Delay – HCM Average Control Delay in seconds; (3) LOS = Level of Service; (4) Delta is the increase in delay from project; (5) Direct Impact? (yes or no).

Source: LOS Engineering, Inc., 2010.





SOURCE: LOS Engineering, Inc., 2010

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Year 2010 + Project Volumes (Drew Interchange Open)

FIGURE 4.3-7

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-7 Yr 2012 + Proj Vol.ai

TABLE 4.3-5
Year (2012) Without and With Project Segment LOS (Drew Road Interchange Open)

Segment	Classification	Year 2012				Project	Year 2012 + Project					
		Daily Volume	LOS C Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact ?
Dunaway Road												
I-8 to Project Access	Major Collector (2U)	793	7,100	0.11	A	675	1,468	7,100	0.21	A	0.10	No
Project Access to Evan Hewes Hwy.	Major Collector (2U)	793	7,100	0.11	A	75	868	7,100	0.12	A	0.01	No
Evan Hewes Hwy												
Dunaway Road to Drew Road	Prime Arterial (2U)	913	7,100	0.13	A	75	988	7,100	0.14	A	0.01	No

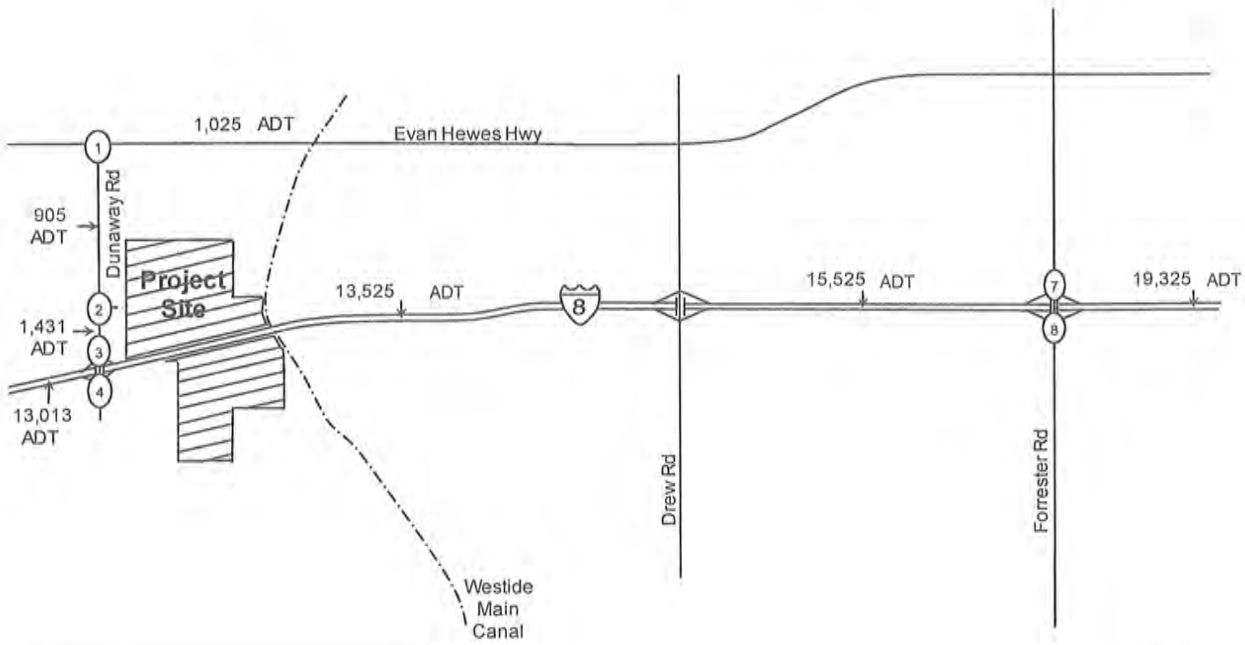
Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element. 2U = 2 lane undivided roadway. Daily volume is a 24 hour volume. LOS = Level of Service. LOS is based on actual number of lanes currently constructed. V/C = Volume to Capacity ratio. Impact? = type of impact (none, cumulative, or direct).
Source: LOS Engineering, Inc., 2010.

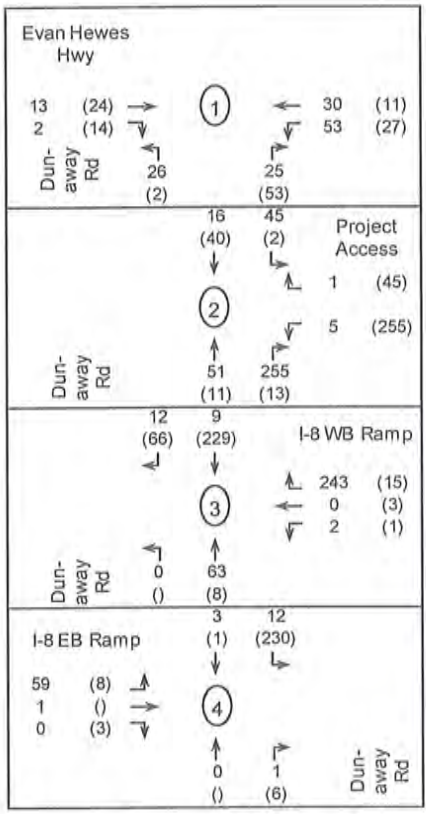
TABLE 4.3-6
Year (2012) Without and With Project Freeway LOS
(Drew Road Interchange Open)

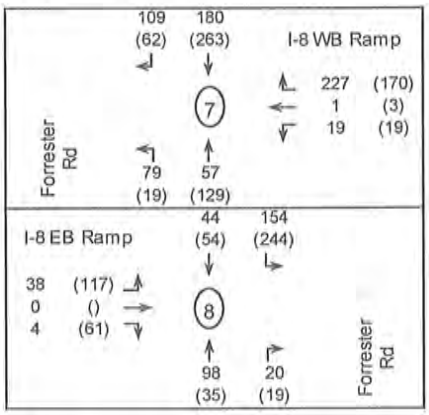
Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted Year 2012												
ADT	13,000				15,000				19,100			
Peak Hour	AM		PM		AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2	2	2	2	2
Capacity (1)	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor (2)	0.1076	0.0963	0.0917	0.1517	0.1076	0.0963	0.0917	0.1517	0.1076	0.0963	0.0917	0.1517
D Factor (3)	0.2616	0.7384	0.4419	0.5581	0.2616	0.7384	0.4419	0.5581	0.2616	0.7384	0.4419	0.5581
Truck Factor (4)	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	437	1,104	629	1,314	504	1,273	726	1,516	642	1,621	924	1,931
Volume to Capacity	0.093	0.235	0.134	0.280	0.107	0.271	0.154	0.323	0.137	0.345	0.197	0.411
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Project Pk Hr Vol	4	225	225	12	2	165	165	10	0	90	90	7
2012 + Project												
Peak Hour Volume	441	1,329	854	1,326	504	1,438	891	1,526	642	1,711	1,014	1,938
Volume to Capacity	0.094	0.283	0.182	0.282	0.108	0.306	0.190	0.325	0.137	0.364	0.216	0.412
LOS	A	A	A	A	A	B	A	B	A	B	A	B
Increase in V/C	0.001	0.048	0.048	0.003	0.000	0.035	0.035	0.002	0.000	0.019	0.019	0.001
Impact?	None	None	None	None	None	None	None	None	None	None	None	None

Notes: ADT = Average Daily Trips; LOS = Level of Service; (1) Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002. (2) Latest K factor from Caltrans (based on 2007 report), which is the percentage of AADT in both directions. (3) Latest D factor from Caltrans (based on 2007 report), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2007 report).

Source: LOS Engineering, Inc., 2010.







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LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - -	Project Access
—·—·—	Canal

SOURCE: LOS Engineering, Inc., 2010

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Peak Year 2010 + Project Volumes (Drew Interchange Closed)

FIGURE 4.3-8

F:\projects\1008 Imperial Solar West\Is\ Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-8 Peak Yr 2010 + Proj Vol.ai

TABLE 4.3-7
Year (2012) Without and With Project Intersection LOS
(Drew Road Interchange Closed)

Intersection and (Control)[1]	Movement	Existing		Year (2012) + Project			
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Dunaway Road at	NB LR	8.8	A	9.2	A	0.4	No
Evan Hewes Hwy. (U)	NB LR	8.6	A	8.7	A	0.1	No
2) Dunaway Road at	WB LR	Does not	Does not	10.3	B	NA	No
Project Access (U)	WB LR	Exist	Exist	10.7	B	NA	No
3) Dunaway Road at	WB LR	8.5	A	9.9	A	1.4	No
I-8 WB Ramp (U)	WB LR	8.8	A	8.9	A	0.1	No
4) Dunaway Road at	EB LR	8.9	A	9.0	A	0.1	No
I-8 EB Ramp (U)	EB LR	8.7	A	12.3	B	3.6	No
5) Drew Road at	WB LR	Closed	Closed	Closed	Closed	NA	No
I-8 WB Ramp (U)	WB LR	Closed	Closed	Closed	Closed	NA	No
6) Drew Road at	EB LR	Closed	Closed	Closed	Closed	NA	No
I-8 EB Ramp (U)	EB LR	Closed	Closed	Closed	Closed	NA	No
7) Forrester Road at	WB LR	9.9	A	10.0	B	0.1	No
I-8 WB Ramp (U)	WB LR	9.8	A	10.3	B	0.5	No
8) Forrester Road at	EB LR	12.7	B	13.5	B	0.8	No
I-8 EB Ramp (U)	EB LR	17.8	C	18.1	C	0.3	No

Notes: (1) Intersection Control – (S) Signalized, (U) Unsignalized; (2) Delay – HCM Average Control Delay in seconds; (3) LOS = Level of Service; (4) Delta is the increase in delay from project; (5) Direct Impact? (yes or no).

Source: LOS Engineering, Inc., 2010.

TABLE 4.3-8
Year (2012) Without and With Project Segment LOS (Drew Road Interchange Closed)

Year (2012Segment	Classification	Year 2012				Project	Year 2012 + Project					
		Daily Volume	LOS C Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact ?
Dunaway Road												
I-8 to Project Access	Major Collector (2U)	793	7,100	0.11	A	638	1,431	7,100	0.20	A	0.09	No
Project Access to Evan Hewes Hwy.	Major Collector (2U)	793	7,100	0.11	A	112	905	7,100	0.13	A	0.02	No
Evan Hewes Hwy												
Dunaway Road to Drew Road	Prime Arterial (2U)	913	7,100	0.13	A	112	1,025	7,100	0.14	A	0.02	No

Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element. 2U = 2 lane undivided roadway. Daily volume is a 24 hour volume. LOS = Level of Service. LOS is based on actual number of lanes currently constructed. V/C = Volume to Capacity ratio. Impact? = type of impact (none, cumulative, or direct).

Source: LOS Engineering, Inc., 2010.

TABLE 4.3-9
Year (2012) Without and With Project Freeway LOS
(Drew Road Interchange Closed)

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted Year 2012												
ADT	13,000				15,000				19,100			
Peak Hour	AM		PM		AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2	2	2	2	2
Capacity (1)	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor (2)	0.1076	0.0963	0.0917	0.1517	0.1076	0.0963	0.0917	0.1517	0.1076	0.0963	0.0917	0.1517
D Factor (3)	0.2616	0.7384	0.4419	0.5581	0.2616	0.7384	0.4419	0.5581	0.2616	0.7384	0.4419	0.5581
Truck Factor (4)	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	437	1,104	629	1,314	504	1,273	726	1,516	642	1,621	924	1,931
Volume to Capacity	0.093	0.235	0.134	0.280	0.107	0.271	0.154	0.323	0.137	0.345	0.197	0.411
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Project Pk Hr Vol	4	210	210	11	4	210	210	11	2	90	90	5
2012 + Project												
Peak Hour Volume	441	1,314	839	1,325	508	1,483	936	1,527	644	1,711	1,014	1,936
Volume to Capacity	0.094	0.279	0.178	0.282	0.108	0.316	0.199	0.325	0.137	0.364	0.216	0.412
LOS	A	A	A	A	A	B	A	B	A	B	A	B
Increase in V/C	0.001	0.045	0.045	0.002	0.001	0.045	0.045	0.002	0.000	0.019	0.019	0.001
Impact?	None	None	None	None	None	None	None	None	None	None	None	None

Notes: ADT = Average Daily Trips; LOS = Level of Service; (1) Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002. (2) Latest K factor from Caltrans (based on 2007 report), which is the percentage of AADT in both directions. (3) Latest D factor from Caltrans (based on 2007 report), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2007 report).

Source: LOS Engineering, Inc., 2010.

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

During the construction phase of the Proposed Action, the construction workforce is expected to reach a peak of approximately 285 workers. Sufficient parking would be available on-site at the construction staging areas. The Proposed Action will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project would not result in inadequate parking capacity and no impact under CEQA is identified for this issue area.

I. Adopted Policies, Plans, or Programs Supporting Alternative Transportation

Indicator 6: Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The Proposed Action would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation. No impact under CEQA is identified for this issue area.

J. Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site is anticipated to require approximately less than half of the number of workers required during the construction phase. There is a reduction in the number of workers during decommissioning because the decommissioning process is purely disassembly and therefore would not require the commissioning/testing teams, quality assurance/quality control, or module alignment teams that would be necessary during construction. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project under CEQA.

4.3.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Project Trip Generation

The trip generation associated with Alternative 1-Alternative Transmission Line Corridor would be the same as the Proposed Action. As with the Proposed Action, the construction phase (short-term) will have the highest intensity of trips followed by an operations phase with substantially fewer trips.

Construction

Similar to the Proposed Action, construction of the project under Alternative 1-Alternative Transmission Line Corridor includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. These construction activities are expected to require approximately 17 months. The construction of the solar energy facility will require approximately 17 months, while the transmission line and associated access road will require approximately 17 to 20 weeks within the 17 month construction phase. The construction workforce is expected to reach a peak of approximately 285 workers with hours generally between 7am and 3pm Monday through Friday. Additionally, equipment deliveries and construction trucks will serve the project site. The highest intensity construction phase of the project is calculated to generate 750 ADT with 306 AM peak hour trips (300 inbound and 6 outbound) and 315 PM peak hour trips (15 inbound and 300 outbound).

Project Operations and Maintenance Trip Generation

The project will primarily operate during daylight hours and will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. Based on this information, the operations and maintenance trip generation is estimated at 10 to 15 ADT with 4 AM and 4 PM peak hour trips. Therefore, the higher and more

conservative construction trip, although only short-term in nature, is used to determine potential project impacts.

B. Project Construction Opening Day

Similar to the Proposed Action, the construction phase for Alternative 1-Alternative Transmission Line Corridor is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012 or approximately 24 months from the preparation of the traffic report. Therefore, the construction phase opening day is taken as Year 2012 in the traffic report.

The opening year background volumes are based on increasing the existing Year 2010 volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. This document indicates that traffic projections should be based on demonstrated growth as detailed in the General Plan. For purposes of the traffic study, a more conservative growth rate of 2.8 percent was selected for the annual population growth rate. The Year 2012 volumes in the traffic report were factored up from Year 2010 data through the application of a 2.8% annual growth rate.

C. Construction Trip Distribution and Assignment (Drew Road Interchange Open)

The recent April 2010 earthquake was centered in Mexico south of the City of Calexico and damaged portions of Drew Road. As a result, Drew Road has been temporarily closed (subject to repair) at the time of traffic report preparation. Additionally, it is currently not known when Drew Road will be re-opened. Therefore, the traffic analysis includes two scenarios, with Drew Road open and Drew Road closed. This is most important as it relates to the construction phase of the project where the highest amount of traffic would be generated.

The labor pool for the project construction is anticipated to come primarily from within Imperial County and supplemented by specialists and/or equipment from outside Imperial Valley. Local cities/residential communities within Imperial County are considered to include but are not limited to Calipatria, Westmorland, Brawley, Imperial, El Centro, Holtville and Calexico.

D. Construction Trip Distribution and Assignment (Drew Road Interchange Closed)

Due to recent seismic activity within Imperial Valley and neighboring areas, portions of Drew Road around the I-8 interchange have been closed. To account for these temporary closures, an alternative distribution is anticipated until Drew Road is repaired and opened.

E. Year (2012) plus Project Conditions

Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Indicator 2: *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways.*

The following describes the conditions of the construction traffic onto Year 2012 conditions for the anticipated peak and midpoint of the project construction period. To account for the temporary closure of portions of Drew Road around the Interstate 8 interchange, two alternatives are analyzed: 1) the interchange at I-8 and Drew Road open: and, 2) the interchange at I-8 and Drew Road closed.

Year (2012) plus Project with Drew Road Interchange Open

Under Year 2012 plus project conditions with Drew Road Interchange open, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

Year (2012) plus Project with Drew Interchange Closed

Under Year 2012 plus project conditions with Drew Road closed, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

F. Hazards Due to a Design Feature

Indicator 3: *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Similar to the Proposed Action, the project under Alternative 1-Alternative Transmission Line Corridor would not change the existing surrounding circulation network. As such, Alternative 1-Alternative Transmission Line Corridor will not substantially increase hazards due to a design feature. Therefore, no impact under CEQA is identified for this issue area.

G. Emergency Access

Indicator 4: *Result in inadequate emergency access.*

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code. In addition, the project site is located in a rural agricultural area and would not block or close any emergency access points that would impact emergency access to other nearby areas. Thus, the project under Alternative 1-Alternative Transmission Line Corridor will not result in inadequate emergency access and no impact under CEQA is identified for this issue area.

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 285 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, the project under Alternative 1-Alternative Transmission Line Corridor will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project under Alternative 1-Alternative Transmission Line Corridor would not result in inadequate parking capacity and no impact under CEQA is identified for this issue area.

I. Adopted Policies, Plans, or Programs Supporting Alternative Transportation

Indicator 6: Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bust turnouts, bicycle racks).

Similar to the Proposed Action, the project under Alternative 1-Alternative Transmission Line Corridor would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation and no impact under CEQA is identified for this issue area.

J. Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site is anticipated to require approximately less than half of the number of workers required during the construction phase. There is a reduction in the number of workers during decommissioning because the decommissioning process is purely disassembly and therefore would not require the commissioning/testing teams, quality assurance/quality control, or module alignment teams that would be necessary during construction. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project under CEQA.

4.3.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Project Trip Generation

The trip generation associated with Alternative 2-Alternative Transmission Line Corridor would be the same as the Proposed Action. As with the Proposed Action, the construction phase (short-term) will have the highest intensity of trips followed by an operations phase with substantially fewer trips.

Construction

Similar to the Proposed Action, construction of the project under Alternative 2-Alternative Transmission Line Corridor includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. These construction activities are expected to require approximately 17 months. The construction of the solar energy facility will require approximately 17 months, while the transmission line and associated access road will require approximately 17 to 20 weeks within the 17 month construction phase. The construction workforce is expected to reach a peak of approximately 285 workers with hours generally between 7am and 3pm Monday through Friday. Additionally, equipment deliveries and construction trucks will serve the project site. The highest intensity construction phase of the project is calculated to generate 750 ADT with 306 AM peak hour trips (300 inbound and 6 outbound) and 315 PM peak hour trips (15 inbound and 300 outbound).

Project Operations and Maintenance Trip Generation

The project will primarily operate during daylight hours and will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. Based on this information, the operations and maintenance trip generation is estimated at 10 to 15 ADT with 4 AM and 4 PM peak hour trips. Therefore, the higher and more conservative construction trip, although only short-term in nature, is used to determine potential project impacts.

B. Project Construction Opening Day

Similar to the Proposed Action, the construction phase for Alternative 2-Alternative Transmission Line Corridor is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012 or approximately 24 months from the preparation of the traffic report. Therefore, the construction phase opening day is taken as Year 2012 in the traffic report.

The opening year background volumes are based on increasing the existing Year 2010 volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. This document indicates that traffic projections should be based on demonstrated growth as detailed in the General Plan. For purposes of the traffic study, a more conservative growth rate of 2.8 percent was selected for the annual population growth rate. The Year 2012 volumes in the traffic report were factored up from Year 2010 data through the application of a 2.8% annual growth rate.

C. Construction Trip Distribution and Assignment (Drew Road Interchange Open)

The recent April 2010 earthquake was centered in Mexico south of the City of Calexico and damaged portions of Drew Road. As a result, Drew Road has been temporarily closed (subject to repair) at the time of traffic report preparation. Additionally, it is currently not known when Drew Road will be re-opened. Therefore, the traffic analysis includes two scenarios, with Drew Road open and Drew Road closed. This is

most important as it relates to the construction phase of the project where the highest amount of traffic would be generated.

The labor pool for the project construction is anticipated to come primarily from within Imperial County and supplemented by specialists and/or equipment from outside Imperial Valley. Local cities/residential communities within Imperial County are considered to include but are not limited to Calipatria, Westmorland, Brawley, Imperial, El Centro, Holtville and Calexico.

D. Construction Trip Distribution and Assignment (Drew Road Interchange Closed)

Due to recent seismic activity within Imperial Valley and neighboring areas, portions of Drew Road around the I-8 interchange have been closed. To account for these temporary closures, an alternative distribution is anticipated until Drew Road is repaired and opened.

E. Year (2012) plus Project Conditions

Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Indicator 2: *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways.*

The following describes the conditions of the construction traffic onto Year 2012 conditions for the anticipated peak and midpoint of the project construction period. To account for the temporary closure of portions of Drew Road around the Interstate 8 interchange, two alternatives are analyzed: 1) the interchange at I-8 and Drew Road open: and, 2) the interchange at I-8 and Drew Road closed.

Year (2012) plus Project with Drew Road Interchange Open

Under Year 2012 plus project conditions with Drew Road Interchange open, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

Year (2012) plus Project with Drew Interchange Closed

Under Year 2012 plus project conditions with Drew Road closed, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

F. Hazards Due to a Design Feature

Indicator 3: *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Similar to the Proposed Action, the project under Alternative 2-Alternative Transmission Line Corridor would not change the existing surrounding circulation network. As such, Alternative 2-Alternative Transmission Line

Corridor will not substantially increase hazards due to a design feature. Therefore, no impact under CEQA is identified for this issue area.

G. Emergency Access

Indicator 4: Result in inadequate emergency access.

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code. In addition, the project site is located in a rural agricultural area and would not block or close any emergency access points that would impact emergency access to other nearby areas. Thus, the project under Alternative 2-Alternative Transmission Line Corridor will not result in inadequate emergency access and no impact under CEQA is identified for this issue area.

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 285 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, the project under Alternative 2-Alternative Transmission Line Corridor will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project under Alternative 2-Alternative Transmission Line Corridor would not result in inadequate parking capacity and no impact under CEQA is identified for this issue area.

I. Adopted Policies, Plans, or Programs Supporting Alternative Transportation

Indicator 6: Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bust turnouts, bicycle racks).

Similar to the Proposed Action, the project under Alternative 2-Alternative Transmission Line Corridor would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation and no impact under CEQA is identified for this issue area.

J. Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site is anticipated to require approximately less than half of the number of workers required during the construction phase. There is a reduction in the number of workers during decommissioning because the

decommissioning process is purely disassembly and therefore would not require the commissioning/testing teams, quality assurance/quality control, or module alignment teams that would be necessary during construction. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project under CEQA.

4.3.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Project Trip Generation

The trip generation associated with Alternative 3-Reduced Solar Energy Facility Site would be the same as the Proposed Action. As with the Proposed Action, the construction phase (short-term) will have the highest intensity of trips followed by an operations phase with substantially fewer trips.

Construction

Similar to the Proposed Action, construction of the project under Alternative 3-Reduced Solar Energy Facility Site includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. These construction activities are expected to require approximately 17 months. The construction of the solar energy facility will require approximately 17 months, while the transmission line and associated access road will require approximately 17 to 20 weeks within the 17 month construction phase. The construction workforce is expected to reach a peak of approximately 285 workers with hours generally between 7am and 3pm Monday through Friday. Additionally, equipment deliveries and construction trucks will serve the project site. The highest intensity construction phase of the project is calculated to generate 750 ADT with 306 AM peak hour trips (300 inbound and 6 outbound) and 315 PM peak hour trips (15 inbound and 300 outbound).

Project Operations and Maintenance Trip Generation

The project will primarily operate during daylight hours and will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. Based on this information, the operations and maintenance trip generation is estimated at 10 to 15 ADT with 4 AM and 4 PM peak hour trips. Therefore, the higher and more conservative construction trip, although only short-term in nature, is used to determine potential project impacts.

B. Project Construction Opening Day

Similar to the Proposed Action, the construction phase for Alternative 3-Reduced Solar Energy Facility Site is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012 or approximately 24 months from the preparation of the traffic report. Therefore, the construction phase opening day is taken as Year 2012 in the traffic report.

The opening year background volumes are based on increasing the existing Year 2010 volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007. This document indicates that traffic projections should be based on demonstrated growth as detailed in the General Plan. For purposes of the traffic study, a more conservative growth rate of 2.8 percent was selected for the annual population growth rate. The Year 2012 volumes in the traffic report were factored up from Year 2010 data through the application of a 2.8% annual growth rate.

C. Construction Trip Distribution and Assignment (Drew Road Interchange Open)

The recent April 2010 earthquake was centered in Mexico south of the City of Calexico and damaged portions of Drew Road. As a result, Drew Road has been temporarily closed (subject to repair) at the time of traffic report preparation. Additionally, it is currently not known when Drew Road will be re-opened. Therefore, the traffic analysis includes two scenarios, with Drew Road open and Drew Road closed. This is most important as it relates to the construction phase of the project where the highest amount of traffic would be generated.

The labor pool for the project construction is anticipated to come primarily from within Imperial County and supplemented by specialists and/or equipment from outside Imperial Valley. Local cities/residential communities within Imperial County are considered to include but are not limited to Calipatria, Westmorland, Brawley, Imperial, El Centro, Holtville and Calexico.

D. Construction Trip Distribution and Assignment (Drew Road Interchange Closed)

Due to recent seismic activity within Imperial Valley and neighboring areas, portions of Drew Road around the I-8 interchange have been closed. To account for these temporary closures, an alternative distribution is anticipated until Drew Road is repaired and opened.

E. Year (2012) plus Project Conditions

Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Indicator 2: *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways.*

The following describes the conditions of the construction traffic onto Year 2012 conditions for the anticipated peak and midpoint of the project construction period. To account for the temporary closure of portions of Drew Road around the Interstate 8 interchange, two alternatives are analyzed: 1) the interchange at I-8 and Drew Road open: and, 2) the interchange at I-8 and Drew Road closed.

Year (2012) plus Project with Drew Road Interchange Open

Under Year 2012 plus project conditions with Drew Road Interchange open, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

Year (2012) plus Project with Drew Interchange Closed

Under Year 2012 plus project conditions with Drew Road closed, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

F. Hazards Due to a Design Feature

Indicator 3: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Similar to the Proposed Action, the project under Alternative 3-Reduced Solar Energy Facility Site would not change the existing surrounding circulation network. As such, Alternative 3-Reduced Solar Energy Facility Site will not substantially increase hazards due to a design feature. Therefore, no impact under CEQA is identified for this issue area.

G. Emergency Access

Indicator 4: Result in inadequate emergency access.

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code. In addition, the project site is located in a rural agricultural area and would not block or close any emergency access points that would impact emergency access to other nearby areas. Thus, the project under Alternative 3-Reduced Solar Energy Facility Site will not result in inadequate emergency access and no impact under CEQA is identified for this issue area.

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 285 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, the project under Alternative 3-Reduced Solar Energy Facility Site will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance

building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project under Alternative 3-Reduced Solar Energy Facility Site would not result in inadequate parking capacity and no impact under CEQA is identified for this issue area.

I. Adopted Policies, Plans, or Programs Supporting Alternative Transportation

Indicator 6: Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bust turnouts, bicycle racks).

Similar to the Proposed Action, the project under Alternative 3-Reduced Solar Energy Facility Site would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation and no impact under CEQA is identified for this issue area.

J. Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site is anticipated to require approximately less than half of the number of workers required during the construction phase. There is a reduction in the number of workers during decommissioning because the decommissioning process is purely disassembly and therefore would not require the commissioning/testing teams, quality assurance/quality control, or module alignment teams that would be necessary during construction. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project under CEQA.

4.3.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4- No Action/No Project Alternative were selected. Thus, there would be no effects to transportation/circulation from the Alternative 4- No Action/No Project Alternative.

4.3.1.6 CEQA Summary

Based on the analysis provided above, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will not result in direct transportation/circulation impacts. Therefore, no mitigation is required. Please refer to Section 5.0 Cumulative Impacts regarding cumulative traffic impacts and required mitigation.

The Alternative 4-No Action/No Project Alternative will not result in direct transportation/circulation impacts. Therefore, no mitigation is required.

4.3.2 NEPA Environmental Assessment

4.3.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the information provided above in Section 4.3.1.1, for the project related traffic under the Proposed Action, the study intersections and roadways will operate at LOS C or better for the two scenarios: Year 2012 plus project conditions with Drew Interchange open; and Year 2012 conditions with Drew Road around I-8 closed for travel.

The Proposed Action does not include hazardous design features that would change the existing circulation network. As such, the Proposed Action design would not result in sharp curves, hazardous intersections or other hazardous design features within the existing circulation network.

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code.

As stated in the Proposed Action, the construction workforce is expected to reach a peak of approximately 285 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, implementation of the Proposed Action will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will prove an adequate amount of parking for the employees of the project.

Implementation of the Proposed Action would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation.

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site is anticipated to require approximately less than half of the number of workers required during the construction phase. There is a reduction in the number of workers during decommissioning because the decommissioning process is purely disassembly and therefore would not require the commissioning/testing teams, quality assurance/quality control, or module alignment teams that would be necessary during construction. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project.

B. Alternative 1-Alternative Transmission Line Corridor

The Transportation/Circulation impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Transportation/Circulation impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

Similar to the Proposed Action, the construction workforce for Alternative 3-Reduced Solar Energy Facility Site is expected to reach a peak of approximately 285 workers during the construction phase. As such, the Transportation/Circulation impacts for Alternative 3-Reduced Solar Energy Facility Site for the construction of the solar energy facility site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

The decommissioning of the project site under Alternative 3-Reduced Solar Energy Facility Site is anticipated to require approximately less than half of the number of workers required during the construction phase. Therefore, the project trip generation during decommissioning would be less compared to the project trip generation during the construction phase of the project. As discussed above, the study intersections and roadways were calculated to operate at an acceptable level of service (LOS C or better) during construction. For these reasons, no direct traffic impact would result during decommissioning of the project.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.3.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect effects on the circulation network from the Alternative 4-No Action/No Project Alternative.

4.3.3 Mitigation Measures and Residual Impacts

Based on the impact analysis above, no mitigation measures are required to address impacts to traffic, and therefore no analysis of residual impacts or the impacts of mitigation measures is necessary.

4.4 Air Quality

Information contained in this section is summarized from the *Construction Air Quality Conformity Assessment, Imperial Solar Energy Center West, Imperial County, California* prepared by Investigative Science and Engineering, Inc. (ISE) (August 18, 2010). This document is provided on the attached CD of Technical Appendices as Appendix C1 of this EIR/EA.

CEQA Significance Criteria

For purposes of this EIR/EA, an Air Quality impact would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);*

Indicator 3: *Expose sensitive receptors to substantial pollutant concentrations;*

Indicator 4: *Create objectionable odors affecting a substantial number of people; or,*

Indicator 5: *Conflict with or obstruct implementation of the applicable air quality plan.*

ICAPCD Thresholds of Significance

CEQA Significance criteria for stationary and mobile source air quality impacts are based upon the approach recommended by the California Air Resources Board (CARB) and the Imperial County Air Pollution Control District (ICAPCD). ICAPCD establishes emission thresholds for determining the potential significance of a Proposed Action. For CEQA purposes, these screening criteria are used as numeric methods to demonstrate that a project's total emissions (e.g., stationary and fugitive emissions from mobile sources) would not result in a significant impact to air quality.

The applicable standards are shown on Table 4.4-1. The existing ambient conditions are compared for cases with and without the project. If emissions exceed the allowable thresholds, additional analysis is conducted to determine whether the emissions would exceed an ambient air quality standard.

Determination of significance under CEQA considers both localized impacts and cumulative impacts. In the event that any criteria pollutant exceeds the threshold levels, the Proposed Action's impact on air quality is considered significant under CEQA, and mitigation measures would be required.

TABLE 4.4-1
Thresholds of Significance for Air Quality Impacts-ICAPCD

Pollutant	Thresholds of Significance (Pounds per Day)	Clean Air Act *less than significant* Levels (Tons per Year)
Carbon Monoxide	550	100
Oxides of Nitrogen	55	50
Oxides of Sulfur	150	100
Particulate Matter (PM_{10})	150	100
Particulate Matter ($PM_{2.5}$)	55	100
Volatile Organic Compounds (VOC's) Reactive Organic Gasses (ROG's)	55	50

Source: Imperial County Air Pollution Control District, 2007; EPA 40 CFR 93, 1993.

Note: [1] The $PM_{2.5}$ threshold is based upon the proposed standard identified in the "Final – Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds," published by SCAQMD in October 2006.

It should be noted that ICAPCD has adopted, as part of their current November 2007 CEQA guidelines, standard mitigation measures for construction emissions, which must be followed regardless of the size of the project. Thus, the above levels are used for screening purposes. The project applicant would be required to utilize the ICAPCD mitigation measures regardless of the impact findings.

Finally, it should be noted that under the General Conformity Rule, the EPA has developed a set of *de minimis* thresholds for all proposed federal actions in a non-attainment area for evaluating the significance of air quality impacts. It should be noted that the State standards are equal to, or more stringent than, the Federal Clean Air standards[1].

Diesel Toxic Risk Thresholds

There are inherent uncertainties in risk assessment with regard to the identification of compounds as causing cancer or other health effects in humans, the cancer potencies and Reference Exposure Levels (RELs) of compounds, and the exposure that individuals receive. It is common practice to use conservative (health protective) assumptions with respect to uncertain parameters. The uncertainties and conservative assumptions must be considered when evaluating the results of risk assessments.

There is debate as to the appropriate levels of risk assigned to diesel particulates. The EPA has not yet declared diesel particulates as a toxic air contaminant. Using the CARB threshold, a risk concentration of one in one million (1:1,000,000) per $\mu g/m^3$ of continuous 70-year exposure is considered less than significant.

NEPA Methodology

Evaluation of potential air quality impacts of the Proposed Action was based on the aforementioned report for Construction Air Quality. Air quality impacts are evaluated based on the impacts to the air basin and any potential conflict with the State Implementation Plan. The evaluation of the Proposed Action's impacts on Air Quality issues for NEPA purposes was framed using the above-mentioned CEQA Indicators, because those indicators capture the range of potential Air Quality impacts that could occur as a result of the Proposed Action and Alternatives. Specifically, the primary sources of Air Quality impacts (particularly

[1] A fact that can be verified through multiplication of the ICAPCD standards by 365 days and dividing by 2,000 pounds.

during construction activities) are grading and other construction activities. However, this section also evaluates operational Air Quality impacts of the project. In addition to NEPA's requirement to evaluate the impact of a Proposed Action on various environmental resources, including Air Quality, Section 176 of the Clean Air Act requires federal agencies that are funding, permitting, or approving an activity to ensure the activity conforms with the State's implementation plan adopted to eliminate or reduce air quality violations (42 USC 7506).

4.4.1 CEQA Environmental Analysis

The analysis criteria for air quality impacts are based upon the approach and methods discussed in the ICAPCD's CEQA Air Quality Handbook. The handbook establishes aggregate emission calculations for determining the potential CEQA significance of a Proposed Action. In the event that the emissions exceed the established thresholds, air dispersion modeling may be conducted to assess whether the Proposed Action results in an exceedance of an air quality standard. The County of Imperial has adopted this methodology.

The criteria used to evaluate air emissions associated with projects are based primarily on the combustion emissions generated by motor vehicles and area source emissions (paved and unpaved roads, construction projects, open areas, etc.). An air quality analysis performed by ISE (August 18, 2010) was used in the evaluation of construction and operational air quality impacts.

Short-term emissions are primarily related to the grading and construction phases of a project and are recognized to be short in duration and without lasting impacts on air quality. Long-term emissions consist of the area source emissions and operational emissions.

4.4.1.1 Proposed Action

A. Construction Impacts

Air emissions are generated during construction activities associated with the development of a project including grading, clearing, hauling, underground utility construction, and paving activities. During site clearing and remedial grading, diesel exhaust emissions are generated by construction related vehicles such as dozers, loaders, dump/haul trucks, and scrapers. Emissions are also generated in the form of dust and PM_{10} as a result of soil disturbance. Construction emissions vary from day-to-day depending on the number of workers, number and types of active heavy-duty vehicles and equipment, level of activity, the prevailing meteorological conditions, and the length over which these activities occur.

Grading/Clearing/Hauling

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The estimated construction equipment exhaust emissions (unmitigated, Tier 0) are provided below in Table 4.4-2 for the typical construction activities identified at the site. The construction activities would roughly be divided into two phases: grading/clearing/hauling and underground utilities/paving (or alternatively transmission line construction since equipment utilization be nearly identical).

TABLE 4.4-2
Predicted Construction Pollutant Emissions-Grading/Clearing/Hauling (Unmitigated Tier 0)

Equipment	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (Hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Dozer- D8 Cat	1	300	50	8	10.8	27.6	2.4	1.8	1.7	3.6
Loader	1	150	50	8	9.0	13.2	1.2	0.6	0.6	1.8
Water Truck	2	200	50	4	4.8	16.8	1.6	1.2	1.1	1.6
Dump/Haul Trucks	4	300	20	4	5.8	20.2	1.9	1.4	1.3	1.9
Scraper	1	450	75	4	14.9	25.7	2.7	2.0	1.8	1.4
Total for this Construction Task					45.3	103.5	9.8	7.0	6.5	10.3
Significance Threshold (ICAPCD)					550	55	150	150	55	55

Source: ISE, 2010

As shown in Table 4.4-2, NO_x impacts are expected due to construction grading operations. NO_x emissions of 103.5 pounds per day would exceed ICAPCD's CEQA threshold of 55 pounds per day. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier 2+ equipment[2] to reduce NO_x emissions to below a CEQA level of significance.

Table 4.4-3 identifies the predicted construction emissions with the Tier 2+ engine technology mitigation. With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day and would therefore not result in a cumulatively considerable net increase of NO_x. Implementation of Mitigation Measures AQ1 and AQ2, which include use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

As shown on Table 4.4-4, the Proposed Action would not exceed construction emissions due to underground utility construction and PV system construction with the use of Tier 2+ equipment engine technology. Implementation of Mitigation Measures AQ1 and AQ2 ensures that construction emissions would not exceed ICAPCD's CEQA thresholds of significance.

[2] For the purposes of mitigation, any construction equipment unable to comply with the applicable standards for a specific pollutant will be reanalyzed using the applicable Tier 2 equipment for engine sizes over 50 HP. These emission rates become mandatory for all equipment built starting 2001 or later (depending on engine size).

TABLE 4.4-3
Predicted Construction Pollutant Emissions-Grading/Clearing/Hauling (Mitigated Tier 2+)

Equipment	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (Hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Dozer- D8 Cat	1	300	50	8	6.8	7.9	2.4	0.2	0.2	3.6
Loader	1	150	50	8	4.9	4.0	1.2	0.2	0.2	1.8
Water Truck	2	200	50	4	4.6	5.3	1.6	0.2	0.2	1.6
Dump/Haul Trucks	4	300	20	4	5.5	6.3	1.9	0.2	0.2	1.9
Scraper	1	450	75	4	7.7	8.9	2.7	0.3	0.3	1.4
Total for this Construction Task					29.5	32.4	9.8	1.1	1.1	10.3
Significance Threshold (ICAPCD)					550	55	150	150	55	55

Source: ISE, 2010

TABLE 4.4-4
Predicted Construction Pollutant Emissions-Underground Utilities/Paving (Mitigated Tier 2+)

Equipment	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (Hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Underground Utility Construction/Transmission Line Construction										
Track Backhoe	1	150	50	6	3.7	6.8	0.9	0.1	0.1	1.4
Loader/Drill	1	150	50	6	3.7	6.8	0.9	0.1	0.1	1.4
Water Truck	2	200	50	4	4.6	12.2	1.6	0.2	0.2	1.6
Concrete Truck	8	250	25	0.5	1.4	3.8	0.5	0.1	0.1	0.5
Dump/Haul Trucks	2	300	45	4	6.2	16.4	2.2	0.3	0.3	2.2
Total for this Construction Task					*19.6*	*46.0*	*6.1*	*0.8*	*0.8*	*7.1*
Solar Panel System Installation Activities/Tower Placement Activities										
Skid Steer Cat	1	150	50	6	3.7	6.8	0.9	0.1	0.1	1.4
Hydraulic Crane	2	200	25	4	2.3	6.1	0.8	0.1	0.1	1.2
Dump/Haul Trucks	4	300	45	0.5	1.5	4.1	0.5	0.1	0.1	0.5
Paver	1	150	35	8	3.4	6.4	0.8	0.1	0.1	0.4
Roller	1	150	35	8	3.4	6.4	0.8	0.1	0.1	0.8
Total for this Construction Task					*14.3*	*29.8*	*3.8*	*0.5*	*0.5*	*4.3*
Significance Threshold (ICAPCD)					550	55	150	150	55	55

Source: ISE, 2010

In addition, regardless of total construction emissions, the ICAPCD requires standard and discretionary mitigation measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction. Measures to minimize air quality emissions include the replacement of fossil fueled equipment with electrically driven equivalents and keeping vehicles well maintained to prevent leaks and minimize emissions.

Earthwork Activities

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction activities are also a source of fugitive dust emissions that may have a substantial, but temporary impact on local air quality. These emissions are typically associated with land clearing, excavating, and construction of a Proposed Action. Substantial dust emissions also occur when vehicles travel on paved and unpaved surfaces, and when haul trucks lose material.

Dust emissions and impacts vary substantially from day to day, depending on the level of activity, the specific operation being conducted, and the prevailing meteorological conditions. Wet dust suppression techniques, such as watering and/or applying chemical stabilization, would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne through the action of mechanical disturbance or wind motion.

Construction grading operations at the project site are anticipated to be minimal having a worst-case quantity no greater than 250,000 cubic-yards of material moved over the anticipated 17-month (340-day) construction period.

Out of the total quantity identified above, it is estimated that roughly 80% of the working weight would be capable of generating PM_{10} because a minimal amount of rock is present on the site. Thus, for the purposes of analysis, the working weight of earthwork material capable of generating some amount of PM_{10} would be 260,000 tons. Thus, the average mass grading earthwork movement per day over the total 340 working days would be 764.7 tons/day. With surface wetting a minimum of three times per day during all phases of earthwork operations, a control efficiency of 34% to 68% reduction in fugitive dust can be applied per SCAQMD methodology (See Appendix C for calculations). A 34% reduction in fugitive dust would occur with minimal surface wetting. However, the project site would be fully wetted a minimum of three times per day during earthwork operations; thus, a 60% reduction in fugitive dust would be achieved. Assuming a median 60% control efficiency, due to the aforementioned watering yields, the project would generate a total fugitive dust generated load of 19.6 pounds per day. This level is well below the 150 pounds per day threshold established by the ICAPCD. Therefore, less than significant impacts under CEQA are expected from construction grading earthwork particulate matter. The commensurate $PM_{2.5}$ level would be 4.1 pounds per day, which is also below the CEQA threshold of significance of 55 pounds per day for this pollutant.

Unpaved road travel due to construction activities is unknown at this time. For the purposes of analysis, it is assumed that vehicles moving onsite could traverse a total of 50 miles per day (VMT) during the earthwork and site preparation phases. 50 VMT is an upper bound estimate based upon how the site will be graded and constructed. Approximately 29.6 pounds of PM_{10} would be generated per day. This activity alone would not generate a significant impact under CEQA. The commensurate $PM_{2.5}$ level would be 6.3 pounds per day, which is also below the proposed threshold of significance identified above.

As identified above, the ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures identified in Section 4.4.2 Mitigation Measures as AQ2 and will further minimize PM_{10} emissions during construction and therefore will not result in a cumulatively considerable net increase of PM_{10}. With implementation of Mitigation Measure AQ2, the Proposed Action's construction related air quality impacts would be less than significant under CEQA.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

As discussed in Section 3.4 of this EIR/EA, the proposed project site is surrounded by federal lands under the jurisdiction of the Bureau of Land Management immediately to the north, west and south. Agricultural lands are located to the east. These land uses are not developed or considered sensitive. As such, no sensitive receptors are in the project area.

The solar panel provider (PV or CPV panels) has not been selected at this point in time. The indirect emissions associated with panel construction will vary depending on the panel provider utilized for construction of the solar panels. Certain panel providers emphasize methods and programs for manufacturing and construction that are environmentally sustainable, such as pre-funded module collection and recycling programs.

For example, the principal materials incorporated into the PV or CPV arrays include glass, steel, and various semiconductor metals. Panel suppliers are available that utilize production processes designed to minimize waste generation and maximize the recyclability and reusability of component materials.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. In addition, CdTe's physical properties, including its extremely low vapor pressure and high boiling and melting points, along with its insolubility in water, limit its mobility. Furthermore, the very thin layer of CdTe in PV modules is encapsulated between two protective sheets of glass. As a result, the risk of health or

environmental exposure in fires, from accidental breakage, or from leaching is not considered significant under CEQA.

A 2005 peer review of three major published studies on the environmental profile of CdTe PV organized by the European Commission, Joint Research Center and sponsored by the German Environment Ministry concluded "…CdTe used in PV is in an environmentally stable form that does not leak into the environment during normal use or foreseeable accidents, and therefore can be considered the environmentally safest current use of cadmium." This review also concluded "…Large scale use of CdTe photovoltaic modules does not present any risks to public health and the environment."

Independent analysis also indicates that CdTe modules do not pose a risk during fires. CdTe has an extremely low vapor pressure, high boiling and melting points and is almost completely encapsulated by molten glass when exposed to fire. Exposure of pieces of CdTe PV modules to flame temperatures from 760 to 1100 degrees Celsius illustrated that CdTe diffuses into glass, rather than being released into the atmosphere. Higher temperatures produce further CdTe diffusion into the glass."

Through outdoor leaching experiments with small fragments of CdTe modules, an independent study estimated that in a worst-case scenario, materials leached from the modules into water would result in concentration levels that are below the U.S. Environmental Protection Agency's (USEPA) drinking water concentration limit for cadmium."

As a result, there is substantial expert evidence that the risk that the Proposed Action will expose sensitive receptors to substantial pollutant concentrations is below a level of significance under CEQA.

Diesel-Related Toxic Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 3: *Expose sensitive receptors to substantial pollutant concentrations.*

Onsite construction equipment was found to generate worst-case daily pollutant levels during the rough grading phase. These emissions are assumed to occur over any given 24-hour day (thereby providing an upper bound of expected emission concentrations) and direct comparison with CAAQS standards. Although all stable criteria pollutants are provided, it should be noted that for cancer-risk potential, which is associated with diesel emissions, only combustion-fired PM_{10} particulates are considered with $PM_{2.5}$ concentrations being determined through the aforementioned fractional emission estimates.

The Proposed Action has a maximum working area of roughly 49,222,800 square-feet based upon the Proposed Action's site plan. Based upon the onsite emission levels identified above, Table 4.4-5 provides the aggregate Tier 2+ mitigated emission rates for various criteria pollutants in grams per second and grams per square-meter (m^2) per second (required as the input parameters for the diesel emissions over this working area) and provides a worst-case assessment of the impacts to sensitive receptors.

TABLE 4.4-5
Predicted Onsite Diesel-Fired Construction Emission Rates (Tier 2+)

Criteria Pollutant	Max Daily Emissions (pounds)	Daily Site Emission Rates (grams/second)	Average Area Emission Rates (grams/m²/second)
CO	29.5	0.1549	3.3867E-08
NO_x	46.0	0.2415	5.2809E-08
SO_x	9.8	0.0514	1.1251E-08
PM_{10}	1.1	0.0058	1.2628E-09
$PM_{2.5}$	1.1	0.0058	1.2628E-09

Source: ISE, 2010.

The expected combustion-fired construction emission concentrations based on the *SCREEN3* modeling for the Proposed Action are provided in Table 4.4-6. The *SCREEN3* methodology essentially applies to all diesel emissions over the project site and provides a worst-case assessment of the potential impacts to sensitive receptors. Although all stable criteria pollutants are provided, it should be noted that for cancer-risk potential, only PM_{10} is the single contributing factor. A detailed modeling methodology is provided in Appendix C1 of this EIR/EA. Based upon the model results, all criteria pollutants are estimated to be below the CARB-recommended level of one in a million per µg/m³ (i.e., all risk levels less than 1.0). Given this, no carcinogenic impact potential associated with the Proposed Action is anticipated during grading operations.

TABLE 4.4-6
SCREEN3 Predicted Diesel-Fired Emission Concentrations

Criteria Pollutant	Pollutant Concentration (µg/m³)	Pollutant Concentration (ppm)	Pollutant Risk Probability (percent risk per person for 70-year exposure)	Significant?
CO	3.63	0.0032	n/a	No
NO_x	5.65	0.0030	n/a	No
SO_x	1.20	0.0005	n/a	No
PM_{10}	0.14	--	0.004%	No
$PM_{2.5}$	0.12	--	n/a	No

Notes: Diesel risk calculated using: Risk (%) = ($300x10^{-6}$ x MEFAC) x 100 = $300x10^{-4}$ x EMFAC, based upon ARB 1999 Staff Report from the Scientific Review Panel (SRP) on Diesel Toxics inhaled in a 70-year lifetime.

Conversion Factors (approximate):

- CO: 1ppm = 1,150 ug/m³ @ 25 deg-C STP
- NO_x: 1ppm = 1,880 ug/m³ @ 25 deg-C STP
- SO_x: 1ppm = 2,620 ug/m³ @ 25 deg-C STP
- PM_{10} and $PM_{2.5}$: 1ppm = 1 g/m³ (solid)

$PM_{2.5}$ levels based upon the CEIDARS database fractional emission factor for diesel construction equipment of 0.920 $PM_{2.5}/PM_{10}$.

Source: ISE, 2010.

Additionally, the analysis provided in the *Construction Air Quality Conformity Assessment* prepared by ISE (2010) identified a worst-case PM_{10} level of 0.14 µg/m³ occurring at a distance of 1,720 meters (5,642 feet) from the project site. This pollutant concentration is far below the California Ambient Air Quality Standard (CAAQS) of 50 µg/m³ established by the State for any given 24-hour exposure period.

Furthermore, the project generated construction PM_{10} level is expected to have a limited impact at a distance of 4.27 miles from the project site. No cumulative contribution of PM_{10} from the site is likely beyond this point.

The anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 0.12 µg/m^3, which are also below the Federal NAAQS 24-hour thresholds of 35 µg/m^3 (there are no State thresholds for this pollutant). No cumulative contribution of $PM_{2.5}$ from the site is likely beyond the aforementioned 4.27-mile radius cited above.

Therefore, under CEQA, the Proposed Action would not violate any air quality standard or contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

Indicator 4: Create objectionable odors affecting a substantial number of people.

In addition to determining whether an odor affects a substantial number of people, whether an odor impact is objectionable depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generation citizen complaints to local governments and regulatory agencies.

Among physical harms that are possible is the inhalation of volatile organic compounds (VOC's) that cause smell sensation in human. These odors can affect human health in four primary ways:

- The VOC's can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOC's can stimulate sensory nerves that can cause potentially harmful health effects; and,
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Projects with the potential to expose a substantial number of people to objectionable odors would be deemed to have a significant impact under CEQA. Land uses commonly considered to be potential source of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies.

No major sources of odors were identified in the vicinity of the project site that could potentially affect proposed on-site land uses. However, the development of the Proposed Action site could generate trace amounts (less than 1 µg/m3) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust). Additionally, proposed onsite uses

could generate such substances as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles. Any odor generation would be intermittent and would terminate upon completion of the construction phase of the Proposed Action. In addition, the site is surrounded by few people and therefore cannot create objectionable odors affecting a substantial number of people. As a result, there will be no significant air quality impacts under CEQA and no mitigation is required.

Vehicular Emission Levels

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The Imperial Solar Energy Center West site is expected to have a worst-case construction trip generation level of 750 ADT based upon the cumulative trip generation produced for the Proposed Action. The average one-way construction trip length would be 15.0 miles. A median speed of 45 MPH was used, consistent with average values observed (i.e., combined highway and surface street traffic activity).

The calculated daily emission levels due to travel to and from the site are shown in Table 4.4-7. It should be noted that construction emissions associated with employee trips are quantified. However, a majority of these trips are already accounted for in the basin-wide air emissions as they are expected to be drawn for a large part, from the existing workforce that resides within the County. Therefore, the emissions estimated are conservative. Based upon the findings, no significant impacts under CEQA for any criteria pollutants were identified. Since these are construction trips, they would be cumulatively added to all other daily construction emissions in the aggregate emissions synopsis.

Aggregate Construction Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The aggregate construction emission levels produced by the Proposed Action with no mitigation incorporated are identified in Table 4.4-8. As identified in Table 4.4-8, an aggregate emissions impact of NOx would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline.

TABLE 4.4-7
Projected Mobile Trip Emissions

Development Phase	ADT	Aggregate Trip Emissions in Pounds/Day					
		CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
EMFAC 2007 Year 2012 Emission Rates (in grams/mile @45 MPH)							
Light Duty Autos (LDA)		2.170	0.319	0.003	0.007	0.007	0.071
Light Duty Trucks (LDT)		3.095	0.535	0.003	0.015	0.015	0.093
Medium Duty Trucks (MDT)		2.446	0.732	0.005	0.014	0.014	0.082
Heavy Duty Trucks (HDT)		3.270	11.008	0.016	0.338	0.337	0.521
Buses (UBUS)		18.491	16.436	0.015	0.091	0.091	1.061
Motorcycles (MCY)		28.685	1.492	0.002	0.024	0.024	2.597
Proposed Project Action @ 750 Net ADT							
Light Duty Autos (LDA)	518	37.14	5.46	0.05	0.12	0.1	1.22
Light Duty Trucks (LDT)	146	14.89	2.57	0.01	0.07	0.1	0.45
Medium Duty Trucks (MDT)	48	3.88	1.16	0.01	0.02	0.0	0.13
Heavy Duty Trucks (HDT)	35	3.81	12.83	0.02	0.39	0.4	0.61
Buses (UBUS)	0	0.00	0.00	0.00	0.00	0.0	0.00
Motorcycles (MCY)	4	3.56	0.19	0.00	0.00	0.0	0.32
Total	*750*	*63.3*	*22.2*	*0.1*	*0.6*	*0.6*	*2.7*
Significance Threshold (ICAPCD)		550	55	150	150	55	55

Notes: Assumes an average 15-mile trip distance per vehicle. Salton Sea Air Basin wintertime conditions (50° F). For operational vehicular traffic, the fractional emission factor is 0.998 $PM_{2.5}/PM_{10}$.
Source: ISE, 2010.

TABLE 4.4-8
Aggregate Construction Emissions With No Mitigation Incorporated (Tier 0 Baseline)

Scenario Examined	Aggregate Emissions in Pounds/Day					
	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Construction Grading Operations						
Grading Emissions (Tier 0 Baseline)	45.3	103.5	9.8	7.0	6.5	10.3
Surface Grading Dust Generation	--	--	--	19.6	4.1	--
Powered Haulage Dust Generation	0.0	0.0	0.0	29.6	6.3	0.0
Construction Traffic Generation (Table 4.4-7)	63.3	22.2	0.1	0.6	0.6	2.7
Total	108.6	125.7	9.9	56.8	17.5	13.0
Significance Threshold (ICAPCD)	550	55	150	150	55	55

Source: ISE, 2010.

NOx aggregate emissions of 125.7 pounds/day would exceed ICAPCD's threshold of 55 pounds/day. This is considered a significant impact under CEQA. However, as identified in Table 4.4-9, no aggregate emissions impacts are identified with mitigation incorporated into the project (Tier 2+ technology). With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day. Implementation of Mitigation Measures AQ1 and AQ2 would reduce this impact to a level less than significant.

TABLE 4.4-9
Aggregate Construction Emissions With Mitigation Incorporated (Tier 2+ Technology)

Scenario Examined	Aggregate Emissions in Pounds/Day					
	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Construction Grading Operations						
Grading Emissions (Tier 2+ Mitigated)	29.5	32.4	9.8	1.1	1.1	10.3
Surface Grading Dust Generation	--	--	--	19.6	4.1	--
Powered Haulage Dust Generation	0.0	0.0	0.0	29.6	6.3	0.0
Construction Traffic Generation (Table 4.4-7)	63.3	22.2	0.1	0.6	0.6	2.7
Total	92.8	54.6	9.9	50.9	12.1	13.0
Significance Threshold (ICAPCD)	550	55	150	150	55	55

Source: ISE, 2010.

As discussed in Section 3.4 of this EIR/EA, Imperial Valley is classified as in non-attainment for Federal and State PM_{10} standards. Aggregate construction PM_{10} emissions are less than 35% of the quantitative PM_{10} threshold.

For these reasons, the Proposed Action would not violate air quality standards for PM_{10} or NO_x (ozone precursor). Therefore, no significant impact under CEQA is identified for this issue area.

B. Operational Impacts

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

<u>Vehicle Emissions</u>

BRG Consulting, Inc. calculated operational vehicle emissions using a computer model called URBEMIS. This is a planning tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. Motor vehicles (mobile emissions) are the primary source of emissions associated with the

Proposed Action. Operational vehicle emissions were calculated using a vehicle trip rate of 15 vehicle trips per day. Projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day and would not exceed ICAPCD significance thresholds. Therefore, the Proposed Action would not result in a significant impact under CEQA associated with operational mobile emissions.

Energy Consumption

According to U.S. Department of Energy (USDOE) records on file for all California energy providers, net energy generation for the state from all sources was 207,984,263 megawatt-hours (MW-h) (ISE, 2010). This produced 62,544,000 metric tons (MT) of CO_2 statewide. Thus, the effective CO_2 production per megawatt-hour would be 0.301 MT/MW-h.

During the operational phase of the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day or 4,585 pounds per day. The operational phase of the Proposed Action would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility will burn no fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production. Furthermore, solar technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code.

Operation and Maintenance Building

Pursuant to ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development project throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee; or a combination of both (ICAPCD, 2010). Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

Indicator 5: Conflict with or obstruct implementation of the applicable air quality plan.

The Imperial County Air Quality Attainment Plan (ICAQAP) for the Salton Sea Air Basin (SSAB) and the SCAQMD's Air Quality Management Plan for Ozone (AQMP) (previously AQAP) are incorporated in the State Implementation Plan (SIP) for PM_{10} and ozone, which sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards[3]. The ICAQAP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the ICAQAP for development

[3] As noted in EIR/EA Section 3.4, CARB approved ICAPCD's attainment plan for ozone in November 2010.

projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the ICAQAP to proposed emissions. The project must demonstrate compliance with all ICAPCD applicable rules and regulations as well as local land use plans and population projections.

The Imperial Solar Energy Center West does not contain a residential component. As such, the Proposed Action would not result in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent with future build out plans for the project site under the County's General Plan as well as with the State's definition of an *"eligible renewable energy resource"* in Section 399.12 of the California Public Utilities Code and the definition of "*in-state renewable electricity generation facility"* in Section 25741 of the California Public Resources Code. Therefore, the project will not exceed future population forecasts for future ozone attainment plans. The Proposed Action's contribution to PM_{10} is below a level of significance and would not interfere with the State Implementation Plan for PM_{10}. Therefore, the Proposed Action will not obstruct with implementation of applicable air quality plans and, therefore, is a less than significant impact under CEQA with respect to this issue area.

D. Indirect Impacts

The Proposed Action would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source. Table 4.4-10 depicts the estimated criteria pollutant emission rates from fossil-based generation in the California grid mix and the amount of emissions displaced by the project annually.

TABLE 4.4-10
Estimated Criteria Pollutant Emissions Reductions Created by the Proposed Action

Air Pollutant	Emission Factor (lb/MWh)	Annual Emission Displaced by Proposed Solar Facility (lbs)
CO	0.487	222,000
NO_x	0.227	103,400
PM_{10}	0.040	18,200
ROGs	0.032	14,600
SO_x	0.0022	1,000

Source: Wolff, G. 2005.

<u>Decommissioning</u>

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would result in impacts analogous to the construction impacts as described above under Section 4.4.1.1 A. Construction Impacts.

4.4.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Construction Impacts

Grading/Clearing/Hauling

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, a NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's CEQA threshold of 55 pounds per day. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a CEQA level of significance. Implementation of Mitigation Measures AQ1 and AQ2, which include use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

Earthwork Activities

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, no significant impact under CEQA would occur associated with fugitive dust emissions. Wet dust suppressions techniques would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne. The total fugitive dust generated would be below the thresholds established by the ICAPCD. However, ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These standard mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction and would therefore not result in a cumulatively considerable net increase of PM_{10}. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

As discussed in Section 3.4 of this EIR/EA, the proposed project site is surrounded by federal lands under the jurisdiction of the Bureau of Land Management immediately to the north, west and south. Agricultural lands are located to the east. These land uses are not developed or considered sensitive. As such, no sensitive receptors are in the project area.

As provided in the analysis above, the peer reviewed studies and review of the information provided show that Alternative 1-Alternative Transmission Line Corridor would have impacts similar to those described above.

As a result, there is substantial expert evidence that the Alternative 1-Alternative Transmission Line Corridor will not expose sensitive receptors to substantial pollutant concentrations and is therefore below a level of significance under CEQA.

Diesel-Related Toxic Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 3: *Expose sensitive receptors to substantial pollutant concentrations.*

The combustion-fired construction emission concentrations for Alternative 1-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0). Therefore, under CEQA, the Alternative 1-Alternative Transmission Line Corridor would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of NO_x, PM_{10}, or $PM_{2.5}$, or expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

Indicator 4: *Create objectionable odors affecting a substantial number of people.*

Similar to the Proposed Action, the development of Alternative 1-Alternative Transmission Line Corridor could generate short-term odors. However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 1-Alternative Transmission Line Corridor. Therefore, no significant air quality impact under CEQA will occur and no mitigation is required.

Vehicular Emission Levels

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The calculated daily emission levels due to travel to and from the site for Alternative 1-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. Criteria pollutants associated with vehicular emissions would not exceed the thresholds established by the ICAPCD. Therefore, no significant impact under CEQA has been identified for this issue area.

Aggregate Construction Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The aggregate construction emission levels produced by Alternative 1-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. An aggregate emissions exceedance of NO_x would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a level of significance. Implementation of Mitigation Measures AQ1 and AQ2 will reduce this impact to a level less than significant under CEQA.

Similar to the Proposed Action, aggregate construction PM_{10} emissions are less than 35% of the quantitative PM_{10} threshold. As such, the Alternative 1-Alternative Transmission Line Corridor would not result in a cumulatively considerable net increase of PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard. Therefore, no significant impact under CEQA is identified for this issue area.

B. Operational Impacts

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Vehicle Emissions

The operation of Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for the operational air emission impacts for the Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor. Similar to the Proposed Action, the projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day and would not exceed ICAPCD significance thresholds. Therefore, the project under Alternative 1-Alternative Transmission Line Corridor would not result in a significant impact under CEQA associated with operational mobile emissions.

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day or 4,585 pounds per day for the project under Alternative 1-Alternative Transmission Line Corridor. The operational phase of the project under Alternative 1-Alternative Transmission Line Corridor would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility will burn no fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production. Furthermore, solar technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code.

Operation and Maintenance Building

Pursuant to ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development project throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee; or a combination of both (ICAPCD, 2010). Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

Indicator 5: Conflict with or obstruct implementation of the applicable air quality plan.

The Imperial Solar Energy Center West does not contain a residential component. As such, the project under Alternative 1-Alternative Transmission Line Corridor would not result in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent with future build out plans for the project site under the County's General Plan as well as with the State's definition of an *"eligible renewable energy resource"* in Section 399.12 of the California Public Utilities Code and the definition of "*in-state renewable electricity generation facility"* in Section 25741 of the California Public Resources Code. Therefore, the project is unlikely to exceed future population forecasts for future ozone attainment plans. Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor's contribution to PM_{10} is below a level of significance and would not interfere with the State Implementation Plan for PM_{10}. Therefore, the Alternative 1-Alternative Transmission Line Corridor will not obstruct with implementation of applicable air quality plans and a less than significant impact under CEQA is identified for this issue area.

D. Indirect Impacts

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source.

Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would result in impacts analogous to the construction impacts as described above under Section 4.4.1.2 A. Construction Impacts.

4.4.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Construction Impacts

Grading/Clearing/Hauling

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, a NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's CEQA threshold of 55 pounds per day. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a CEQA level of significance. Implementation of Mitigation Measures AQ1 and AQ2, which include the use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

Earthwork Activities

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, no significant impact under CEQA would occur associated with fugitive dust emissions. Wet dust suppressions techniques would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne. The total fugitive dust generated would be below the thresholds established by the ICAPCD. However, ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These standard mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction and would therefore not result in a cumulatively considerable net increase of PM_{10}. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

As discussed in Section 3.4 of this EIR/EA, the proposed project site is surrounded by federal lands under the jurisdiction of the Bureau of Land Management immediately to the north, west and south. Agricultural

lands are located to the east. These land uses are not developed or considered sensitive. As such, no sensitive receptors are in the project area.

As provided in the analysis above, the peer reviewed studies and review of the information provided show that Alternative 2-Alternative Transmission Line Corridor would have impacts similar to those described above.

As a result, there is substantial expert evidence that the Alternative 2-Alternative Transmission Line Corridor will not expose sensitive receptors to substantial pollutant concentration and is therefore below a level of significance under CEQA.

Diesel-Related Toxic Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 3: *Expose sensitive receptors to substantial pollutant concentrations.*

The combustion-fired construction emission concentrations for Alternative 2-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0). Therefore, under CEQA, the Alternative 2-Alternative Transmission Line Corridor would not violate any air quality standard or contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

Indicator 4: *Create objectionable odors affecting a substantial number of people.*

Similar to the Proposed Action, the development of Alternative 2-Alternative Transmission Line Corridor could generate short-term odors. However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 2-Alternative Transmission Line Corridor. Therefore, no significant air quality impact under CEQA will occur and no mitigation is required.

Vehicular Emission Levels

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The calculated daily emission levels due to travel to and from the site for Alternative 2-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. Criteria pollutants associated with vehicular emissions would not exceed the thresholds established by the ICAPCD. Therefore, no significant impact under CEQA has been identified for this issue area.

Aggregate Construction Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The aggregate construction emission levels produced by Alternative 2-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. An aggregate emissions exceedance of NO_x would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a level of significance. Implementation of Mitigation Measures AQ1 and AQ2 would reduce this impact to a level less than significant under CEQA.

Similar to the Proposed Action, aggregate construction PM_{10} emissions are less than 35% of the quantitative PM_{10} threshold. As such, the Alternative 2-Alternative Transmission Line Corridor would not result in a cumulatively considerable net increase of PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard. Therefore, no significant impact under CEQA is identified for this issue area.

B. Operational Impacts

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Vehicle Emissions

The operation of Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for the operational air emission impacts for the Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor. Similar to the Proposed Action, the projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day and would not exceed ICAPCD significance thresholds. Therefore, the project under Alternative 2-Alternative

Transmission Line Corridor would not result in a significant impact under CEQA associated with operational mobile emissions.

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day or 4,585 pounds per day for the project under Alternative 2-Alternative Transmission Line Corridor. The operational phase of the project under Alternative 2-Alternative Transmission Line Corridor would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility will burn no fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production. Furthermore, solar technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code.

Operation and Maintenance Building

Pursuant to ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development project throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee; or a combination of both (ICAPCD, 2010). Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

Indicator 5: Conflict with or obstruct implementation of the applicable air quality plan.

The Imperial Solar Energy Center West does not contain a residential component. As such, the project under Alternative 2-Alternative Transmission Line Corridor would not result in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent with future build out plans for the project site under the County's General Plan as well as with the State's definition of an *"eligible renewable energy resource"* in Section 399.12 of the California Public Utilities Code and the definition of "*in-state renewable electricity generation facility"* in Section 25741 of the California Public Resources Code. Therefore, the project is unlikely to exceed future population forecasts for future ozone attainment plans. Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor's contribution to PM_{10} is below a level of significance under CEQA and would not interfere with the State Implementation Plan for PM_{10}. Therefore, the Alternative 2-Alternative Transmission Line Corridor will not obstruct with implementation of applicable air quality plans and a less than significant impact under CEQA is identified for this issue area.

D. Indirect Impacts

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source.

Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would result in impacts analogous to the construction impacts as described above under Section 4.4.1.3 A. Construction Impacts.

4.4.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Construction Impacts

Grading/Clearing/Hauling

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, a NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's CEQA threshold of 55 pounds per day. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a CEQA level of significance. Implementation of Mitigation Measures AQ1 and AQ2, which include the use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

Earthwork Activities

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Similar to the Proposed Action, no significant impact would occur associated with fugitive dust emissions. Wet dust suppressions techniques would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne. The total fugitive dust generated would be below the thresholds established by the ICAPCD. However, ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These standard mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction and would therefore not result in a cumulatively considerable net increase of PM_{10}. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

As discussed in Section 3.4 of this EIR/EA, the proposed project site is surrounded by federal lands under the jurisdiction of the Bureau of Land Management immediately to the north, west and south. Agricultural lands are located to the east. These land uses are not developed or considered sensitive. As such, no sensitive receptors are in the project area.

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site would have impacts similar to the Proposed Action, with a reduction in the number of solar panels. This reduction would not affect the analysis of this Alternative in comparison with the Proposed Action and the impacts would be similar.

As a result, there is substantial expert evidence that the Alternative 3-Reduced Solar Energy Facility Site will not expose sensitive receptors to substantial pollutant concentrations, and is therefore below a level of significance under CEQA.

Diesel-Related Toxic Emissions

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

The combustion-fired construction emission concentrations for Alternative 3-Reduced Solar Energy Facility Site would be similar to those of the Proposed Action. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0). Therefore, under CEQA, the Alternative 3-Reduced Solar Energy Facility Site would not violate any air quality standard or contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

Indicator 4: Create objectionable odors affecting a substantial number of people.

Similar to the Proposed Action, the development of Alternative 3-Reduced Solar Energy Facility Site could generate short-term odors. However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 3-Reduced Solar Energy Facility Site. Therefore, no significant air quality impact under CEQA will occur and no mitigation is required.

Vehicular Emission Levels

Indicator 1: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The calculated daily emission levels due to travel to and from the site for Alternative 3-Reduced Solar Energy Facility Site would be similar to those of the Proposed Action. Criteria pollutants associated with vehicular emissions would not exceed the thresholds established by the ICAPCD. Therefore, no significant impact under CEQA has been identified for this issue area.

Aggregate Construction Emissions

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The aggregate construction emission levels produced by Alternative 3-Reduced Solar Energy Facility Site would be similar to those of the Proposed Action. An aggregate emissions exceedance of NO_x would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a level of significance. Implementation of Mitigation Measures AQ1 and AQ2 would reduce this impact to a level less than significant under CEQA.

Similar to the Proposed Action, aggregate construction PM_{10} emissions are less than 35% of the quantitative PM_{10} threshold. As such, the Alternative 3-Reduced Solar Energy Facility Site would not result in a cumulatively considerable net increase of PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard. Therefore, no significant impact under CEQA is identified for this issue area.

B. Operational Impacts

Indicator 1: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Indicator 2: *Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

Vehicle Emissions

The operation of Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for the operational air emission impacts for the Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site. Similar to the Proposed Action, the projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day and would not exceed ICAPCD significance thresholds. Therefore, the project under Alternative 3-Reduced Solar Energy Facility Site would not result in a significant impact under CEQA associated with operational mobile emissions.

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day or 4,585 pounds per day for the project under Alternative 3-Reduced Solar Energy Facility Site. The operational phase of the project under Alternative 3-Reduced Solar Energy Facility Site would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility will burn no fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production. Furthermore, solar technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code.

Operation and Maintenance Building

Pursuant to ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development project throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee; or a combination of both (ICAPCD, 2011). Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

Indicator 5: Conflict with or obstruct implementation of the applicable air quality plan.

The Imperial Solar Energy Center West does not contain a residential component. As such, the project under Alternative 3-Reduced Solar Energy Facility Site would not result in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent with future build out plans for the project site under the County's General Plan as well as with the State's definition of an "*eligible renewable energy resource"* in Section 399.12 of the California Public Utilities Code and the definition of "*in-state renewable electricity generation facility"* in Section 25741 of the California Public Resources Code. Therefore, the project is unlikely to exceed future population forecasts for future ozone attainment plans. Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site's contribution to PM10 is below a level of significance and would not interfere with the State Implementation Plan for PM10. Therefore, the

Alternative 3-Reduced Solar Energy Facility Site will not obstruct with implementation of applicable air quality plans and a less than significant impact under CEQA is identified associated with this issue.

D. Indirect Impacts

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source.

Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would result in impacts analogous to the construction impacts as described above under Section 4.4.1.4 A. Construction Impacts.

4.4.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on air quality from the Alternative 4- No Action/No Project Alternative.

4.4.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will result in short-term air quality impacts during construction. Mitigation Measures AQ1 through AQ3 would reduce significant air quality impacts to a level less than significant under CEQA.

Implementation of the Alternative 4-No Action/No Project Alternative will not result in air quality impacts under CEQA. Therefore, no mitigation is required.

4.4.2 NEPA Environmental Assessment

4.4.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

In addition to analyzing the impact of the Proposed Action under NEPA, BLM is required to make a general conformity determination that the project is in general conformity with implementation plans adopted to reduce or eliminate NAAQS violations (42 USC 7506; 40 CFR 93.150) pursuant to Section 176 of the CAA. Other federal agencies that issue authorizations or otherwise “approve” the project will also be required to make this finding.

For purposes of this NEPA analysis and federal agency Clean Air Act compliance, the federal agency’s conformity finding must determine the Proposed Action or alternatives will not:

(i) Cause or contribute to any new violation of any standard in any area;

(ii) Increase the frequency or severity of any existing violation of any standard in any area; or,

(iii) Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

A. Proposed Action

Construction

Grading/Clearing/Hauling

The construction activities under the Proposed Action would roughly be divided into two phases: grading, clearing, hauling, installation of underground utilities, paving, and transmission line construction. Equipment utilization across many of these activities would be similar.

As analyzed above in Section 4.4.1, NO_x emissions of 103.5 pounds per day would exceed ICAPCD's threshold of 55 pounds per day. ICAPCD would require mitigation using cleaner Tier 2+ equipment[4] to reduce NO_x emissions below the 55 pounds per day threshold. Table 4.4-3 above identifies the predicted construction emissions with the Tier 2+ engine technology mitigation. With implementation of the Tier 2+ engine technology, NO_x emissions would not exceed ICAPCD's threshold of 55 pounds per day. Implementation of Mitigation Measures AQ1 and AQ2 would reduce NO_x emissions.

As shown on Table 4.4-4 above, the Proposed Action would not exceed construction emissions due to underground utility construction and solar energy system construction with the use of Tier 2+ equipment engine technology. ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures are identified in Mitigation Measure AQ2.

Earthwork Activities

Construction activities are also a source of fugitive dust emissions (PM_{10}) that may have a temporary effect on local air quality. These emissions are typically associated with land clearing, excavating, and construction of a Proposed Action. Dust emissions can also occur when vehicles travel on paved and unpaved surfaces, and haul trucks lose material.

Construction grading operations at the project site are anticipated to be minimal having a worst-case quantity no greater than 250,000 cubic-yards of material moved over the anticipated 17-month (340-day) construction period. Unpaved road travel due to construction activities is unknown at this time. For the purposes of analysis, it is assumed that contractor vehicles moving onsite could traverse a total of 50 miles per day (VMT) during the earthwork and site preparation phases. 50 VMT is an upper bound estimate based upon how the site will be graded and constructed.

[4] For the purposes of mitigation, any construction equipment unable to comply with the applicable standards for a specific pollutant will be reanalyzed using the applicable Tier 2 equipment for engine sizes over 50 HP. These emission rates become mandatory for all equipment built starting 2001 or later (depending on engine size).

Wet dust suppression techniques, such as watering and/or applying chemical stabilization, would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne through the action of mechanical disturbance or wind motion. The project site would be fully wetted a minimum of three times per day during earthwork operations. As described above, this would achieve a 60% reduction in fugitive dust. Implementation of this dust control measure would result in the Proposed Action generating a total fugitive dust load of 19.6 pounds per day. This level is below the 150 pounds per day threshold established by the ICAPCD. The commensurate $PM_{2.5}$ level would be 4.1 pounds per day, which is also below the threshold of 55 pounds per day for $PM_{2.5}$.

As identified above, the ICAPCD requires standard and discretionary mitigation measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures are identified in Section 4.4.3 as Mitigation Measure AQ2, and will further minimize air quality emissions during construction.

Emissions Associated with Panel Manufacturing and Use

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. As analyzed above, Cd can be safely sequestered in the form of CdTe in a PV module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. As mentioned previously, a 2005 peer review of three major published studies on the environmental profile of CdTe PV concluded "…CdTe used in PV is in an environmentally stable form that does not leak into the environment during normal use or foreseeable accidents, and therefore can be considered the environmentally safest current use of cadmium." This review also concluded "…Large scale use of CdTe photovoltaic modules does not present any risks to public health and the environment."

Independent analysis also indicates that CdTe modules do not pose a risk during fires. CdTe has an extremely low vapor pressure, high boiling and melting points and is almost completely encapsulated by molten glass when exposed to fire. Exposure of pieces of CdTe PV modules to flame temperatures from 760 to 1100 degrees Celsius illustrated that CdTe diffuses into glass, rather than being released into the atmosphere. Higher temperatures produce further CdTe diffusion into the glass."

Diesel-Related Toxic Emissions

The visible emissions in diesel exhaust are known as particulate matter (PM). In 1998, California identified diesel exhaust particulate matter as a toxic air contaminant based on its potential to cause cancer, premature death, and other health problems. Diesel engines also contribute to California's fine particulate matter (PM2.5) air quality problems. Typically, worst-case daily particulate matter pollutant levels from construction equipment occur during the rough grading phase. These emissions are assumed to occur over any given 24-hour day (thereby providing an upper bound of expected emission concentrations) and direct comparison with CAAQS standards.

The Proposed Action has a maximum working area of roughly 49,222,800 square-feet based upon the Proposed Action's site plan. Based upon the onsite emission levels identified above, Table 4.4-5 provides the aggregate Tier 2+ mitigated emission rates for various criteria pollutants in grams per second and grams per square-meter (m^2) per second (required as the input parameters for the diesel emissions over this working area) and provides a worst-case assessment of the effects to sensitive receptors. The expected combustion-fired construction emission concentrations based on the *SCREEN3* modeling for the Proposed Action are provided in Table 4.4-6 above. The *SCREEN3* methodology essentially applies to all diesel emissions over the project site and provides a worst-case assessment of the potential impacts to sensitive receptors. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0).

The analysis provided in the *Construction Air Quality Conformity Assessment* prepared by ISE (2010) identified a worst-case PM_{10} level of 0.14 $\mu g/m^3$ occurring at a distance of 1,720 meters (5,642 feet) from the project site. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period. Additionally, the anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 0.12 $\mu g/m^3$, which are also below the Federal NAAQS 24-hour thresholds of 35 $\mu g/m^3$ (there are no State thresholds for this pollutant). While there would still be an impact to Air Quality based on the emissions mentioned above, these are short-term impacts that would be greatly reduced via the required mitigation measures.

Odors

In addition to determining whether an odor affects a substantial number of people, whether an odor impact is objectionable depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

No major sources of odors were identified in the vicinity of the project site that could potentially affect proposed on-site land uses. However, the development of the Proposed Action site could generate trace amounts (less than 1 $\mu g/m3$) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust). Additionally, proposed onsite uses could generate such substances as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles. Any odor generation would be intermittent and would terminate upon completion of the construction phase of the Proposed Action.

Vehicular Emission Levels

The Proposed Action is expected to have a worst-case construction trip generation level of 750 ADT based upon the cumulative trip generation produced for the Proposed Action. The average one-way construction trip length would be 15.0 miles. A median speed of 45 MPH was used, consistent with average values observed (i.e., combined highway and surface street traffic activity).

The calculated daily emission levels due to travel to and from the site are shown in Table 4.4-7 above. Construction emissions associated with employee trips are quantified. However, a majority of these trips are already accounted for in the basin-wide air emissions as they are expected to be drawn for a large part, from the existing workforce that resides within the County. Since these are construction trips, they would be cumulatively added to all other daily construction emissions in the aggregate emissions synopsis, and being construction impacts for the transportation of workers, this would be a temporary impact and would not be indicative of operational impacts to air quality.

Aggregate Construction Emissions

The aggregate construction emission levels produced by the Proposed Action with no mitigation incorporated are identified in Table 4.4-8 above. As identified in Table 4.4-8, an aggregate emissions exceedance of NO_x would occur if the grading emissions phase were to remain unmitigated at the Tier 0 Baseline. NO_x aggregate emissions of 125.7 pounds/day would exceed ICAPCD's threshold of 55 pounds/day. However, as identified in Table 4.4-9, no substantial aggregate emissions impacts are identified with mitigation incorporated into the project (i.e., Tier 2+ technology).

Operational Emissions

Vehicle Emissions

BRG Consulting, Inc. calculated operational vehicle emissions using the air quality modeling software URBEMIS. URBEMIS is tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. Motor vehicles (mobile emissions) are the primary source of emissions associated with the Proposed Action. Operational vehicle emissions were calculated using a vehicle trip rate of 15 vehicle trips per day. Projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day.

Energy Consumption

According to U.S. Department of Energy (USDOE) records on file for all California energy providers, net energy generation for the state from all sources was 207,984,263 megawatt-hours (MW-h) (ISE, 2010). This produced 62,544,000 metric tons (MT) of CO_2 statewide. Thus, the effective CO_2 production per megawatt-hour would be 0.301 MT/MW-h.

During the operational phase of the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day or 4,585 pounds per day. The operational phase of the Proposed Action would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility does not burn fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production.

Operation and Maintenance Building

Pursuant to the ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development

projects throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee, or a combination of both. Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

Air Quality Plans

Conformance with the Air Quality Attainment Plan (AQAP) for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQAP to proposed emissions. The project must demonstrate compliance with all ICAPCD applicable rules and regulations as well as local land use plans and population projections.

The Proposed Action does not contain a residential component. As such, the Proposed Action would not result in regional population that exceeds the forecasts in the Air Quality Management Plan (AQMP). The Proposed Action's contribution to PM_{10} is below a level that exceeds the forecasts in the AQMP and would not interfere with the State Implementation Plan for PM_{10}.

Indirect Impacts

The Proposed Action would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source.

Decommissioning

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would result in impacts analogous to the construction impacts as described above.

B. Alternative 1-Alternative Transmission Line Corridor

Construction Impacts

Construction-related impacts to air quality resources under Alternative 1-Alternative Transmission Line Corridor would not change materially relative to the Proposed Action since the scope of construction activities under both alternatives are substantially the same. As such, the analysis provided above for the construction-related impacts for the Proposed Action would apply to Alternative 1-Alternative Transmission Line Corridor.

Operational Impacts

As with construction-related impacts, the operational impacts to air quality resources of Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

Construction Impacts

Construction-related impacts to air quality resources under Alternative 2-Alternative Transmission Line Corridor would not change materially relative to the Proposed Action since the scope of construction activities under both alternatives are substantially the same. As such, the analysis provided above for the construction-related impacts for the Proposed Action would apply to Alternative 2-Alternative Transmission Line Corridor.

Operational Impacts

As with construction-related impacts, the operational impacts to air quality resources of Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

Construction Impacts

Construction-related impacts to air quality resources under Alternative 3-Reduced Solar Energy Facility Site would not be substantially different from the Proposed Action and given the reduced facility footprint under Alternative 3-Reduced Solar Energy Facility Site would require a little less construction in all instances impacts under Alternative 3-Reduced Solar Energy Facility Site would not exceed the impacts for the proposed action, and would likely somewhat less in some areas. As such, the analysis provided above for the construction-related impacts for the Proposed Action covers impacts associated with Alternative 3-Reduced Solar Energy Facility Site.

Operational Impacts

As with construction-related impacts, the operational impacts to air quality resources of Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.4.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regard to air quality from the Alternative 4-No Action/No Project Alternative.

4.4.3 Mitigation Measures and Residual Impacts

4.4.3.1 Proposed Action

Mitigation Measure AQ1 has been shown by CARB to be effective in reducing NO_x and diesel particulate emissions. Proper implementation of this measure through Best Available Control Technologies (BACT) will reduce emissions to below a level of significance.

AQ1 All off-road construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower (hp) or more, will meet, at a minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless such engine is not available for a particular item of equipment. If a Tier 2 engine is not available for any off-road engine larger than 50 hp, that engine will have tailpipe retrofit controls that reduce exhaust emissions of NO_x and PM to no more than Tier 2 emission levels. Tier 1 engines will be allowed on a case-by-case basis only when the Project owner has documented that no Tier 2 equipment or emissions equivalent retrofit equipment is available for a particular equipment type that must be used to complete the Project's construction. This will be documented with signed written correspondence by the appropriate construction contractor along with documented correspondence with at least two construction equipment rental firms.

A list of the construction equipment and the associated EPA Tier shall be submitted to the County Planning and Development Department prior to the issuance of a grading permit to verify implementation of measure.

AQ2 Pursuant to Imperial County's APCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. These mitigation measures listed below shall be implemented prior to and during construction. The County Department of Public Works will verify implementation and compliance with these measures.

ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control

- All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.
- All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

- The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.
- All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area.
- Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.
- The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

ICAPCD Standard Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).
- Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- Construction equipment used for the project should utilize EPA Tier 2 or better engine technology.
- Keep vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.

- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- Implement the trip reduction plan to achieve a 1.5 AVR for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Enhanced Mitigation Measures for Construction Equipment

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g. rescheduling activities to reduce short-term impacts).

AQ3 Prior to the issuance of a building permit, the project applicant shall comply with the ICAPCD Rule 310. All project proponents shall consult with ICAPCD to select and implement off-site mitigation measures, pay an operational development fee, or a combination of both.

4.4.3.2 Alternative 1- Alternative Transmission Line Corridor

Mitigation Measures AQ1 through AQ3 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.4.3.3 Alternative 2- Alternative Transmission Line Corridor

Mitigation Measures AQ1 through AQ3 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.4.3.4 Alternative 3- Reduced Solar Energy Facility Site

Mitigation Measures AQ1 through AQ3 identified above for the Proposed Action will also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.4.3.5 Alternative 4- No Action/No Project Alternative

No mitigation is proposed under the Alternative 4-No Action/No Project Alternative, as no air quality impacts under CEQA would occur.

4.4.3.6 Impact Analysis of Mitigation Measures

<u>Impact Analysis of Mitigation Measure AQ1:</u>

Implementation of Mitigation Measure AQ1 would not result in a direct or indirect impact because the mitigation requires that all off-road construction diesel engines meet, at a minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 50 hp, that

engine will have tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 2 emission levels.

Impact Analysis of Mitigation Measure AQ2:

Implementation of Mitigation Measure AQ2 would not result in a direct or indirect impact because the mitigation requires that all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. The mitigation measure lists the acceptable measures identified by ICAPCD.

Impact Analysis of Mitigation Measure AQ3:

Implementation of Mitigation Measure AQ3 would not result in a direct or indirect impact because the mitigation requires that prior to the issuance of a building permit, the project applicant shall comply with the ICAPCD Rule 310.

4.4.3.7 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

4.5 Greenhouse Gas Emissions

Information in this section is summarized from the *Construction Greenhouse Gas/Global Warming Risk Assessment,* prepared by Investigative Science Engineers (August 19, 2010). This document is provided as Appendix C2 on the attached CD of Technical Appendices found on the back cover of this EIR/EA.

CEQA Significance Criteria

Imperial County utilizes Appendix G of the CEQA Guidelines to evaluate the significance of global climate change impacts. Due to the global nature of GHG emissions and their potential effects, GHG emissions generated by an individual project should be evaluated on a cumulative basis only.

For purposes of this EIR/EA and in accordance with Appendix G of the CEQA Guidelines, a significant greenhouse gas impact would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Generate GHG emissions of* 10,000 metric tons of CO2-equivalent GHG emissions on an annual basis)*; or,*

Indicator 2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Methodology Supporting Indicator 1:

The following methodology shall be incorporated into an analysis of potential global climate change impacts:

CEQA Guidelines §15064.4:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

(2) Rely on a qualitative analysis or performance-based standards.

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and,

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

CEQA Guidelines § 15064.7(c): When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

To determine if a project would generate GHG emissions that would directly or indirectly have a CEQA significant impact on the environment (Indicator 1) and would warrant the imposition of GHG-reducing mitigation measure, the South Coast Air Quality Management District (SCAQMD) proposed a threshold of 10,000 metric tons of CO2e for industrial projects.
(http://www.aqmd.gov/hb/2008/December/081231a.htm).

Pursuant to CEQA Guidelines § 15064.4(b) and 15064.7, the County of Imperial has determined the threshold of significance that applies to the Project based upon the opinions of air quality experts, including but not limited to ISE and SDAQMD is 10,000 MTC02E.

It should be noted that Imperial County's use of the 10,000 MTC02E threshold for this project is even more conservative than the SCAQMD because the County is not amortizing the construction-based GHG emissions over a 30 or 40 year time period as SCAQMD proposes. Instead, the County is evaluating the construction-based GHG emissions under the 10,000 MTCO2E performance standard for the year(s) of construction. In other words, if the project GHG emissions are significant at 10,000 MTCO2E for an operational year of the project, then that is the threshold that should apply for a construction year of the project.

Methodology Supporting Indicator 2:
Indicator 2 is not applicable to this project because Imperial County has not established an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

NEPA Methodology

There is no specific significance threshold under NEPA for greenhouse gas emissions or global climate change related impacts and therefore, while it is unlikely, it is not known for certain whether or not the greenhouse gas emissions associated with this Proposed Action would rise to the level of significance. However, because there is no difference among alternatives with respect to greenhouse gas emission, nor is it possible to prepare a more detailed analysis of project-specific impacts given the current state of science, the preparation of an EIS on the grounds of greenhouse gas emissions alone would serve no reasonable purpose. Additionally, given the determination that the mitigation measures integrated into the Proposed Action would prevent a significance determination under CEQA, this proposed action is not likely to rise to the level of significance under NEPA either[1].

4.5.1 CEQA Environmental Analysis

4.5.1.1 Proposed Action

The following provides an analysis of the potential impacts associated with construction and operation of the Proposed Action. The potential greenhouse gas emissions generated by the construction and operation of the Proposed Action includes all project components comprising of the solar energy facility site, transmission line corridor and access road. It should be noted that the greenhouse gas analysis is the same for each alternative, as the project site, construction and operational characteristics would not change regardless of the alternatives selected.

A. Short-term Construction based GHG Analysis

Methodology

Greenhouse gas emissions are compiled from diesel powered (compression ignition) equipment and operational motor vehicle (spark ignition) contributions. Greenhouse gas emissions associated with diesel engine combustion from mass grading construction equipment will be assumed to occur for engines running at the correct fuel to air ratios. The principle interests are the emission factors for CO_2 and NO_x. CARB estimates on-road motor vehicle emissions by using a series of models called the Motor Vehicles Emission Inventory (MVEI) Models. The EMFAC 2007 Model v2.3 of the MVEI was run using input conditions specific to the Salton Sea air basin to predict operational vehicle emissions from the project based upon a project completion scenario year of 2012. The principle interests are the emission factors for CO_2 and NO_x.

To address the net greenhouse gas emission and perceived global warming potential of the project per AB 32, the entire State of California was modeled as a thermodynamically closed system, subject only to increasing CO_2 concentrations and their equivalents.

[1] It should be noted that one of the intensity factors identified at 40 CFR 1508.27(b)(10) is whether the proposed action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment. This factor was considered as part of the NEPA analysis as reflected in the discussion of CEQA and A.B. 32.

Findings

Greenhouse Gas Emissions from Construction Equipment Operation

The Imperial Solar Energy Center West project would utilize a contingency of equipment required to grade and prepare the site for a period of roughly 340 to 360 days. Table 4.5-1 shows the previous analysis of the required equipment and subsequent emissions budget, which includes implementation of Mitigation Measure AQ1. Because N_2O has a global warming potential (GWP) of 296 with respect to CO_2, 3,895.2 pounds of N_2O can be expressed as an equivalent CO_2 (CO_{2e}) level of 1,152,979.2 pounds. Assuming a worst-case scenario 360-day construction period, the final equivalent CO_{2e} GHG load for the project's construction equipment would be 1,358,395.2 pounds CO_{2e}, which is the total of 1,152,979.2 pounds CO_{2e} and the 205,416 pounds of CO_2 production shown in Table 4.5-1.

TABLE 4.5-1
Construction Equipment Vehicle GHG Emissions – Imperial Solar Energy Center West (Tier 2+)

Construction Phase	Equipment	Construction Vehicle Emission Levels (pounds)			
		Per Day		Total During Construction	
		CO	NOx	CO_2=27xCO	N_2O=0.3xNO_x
Grading/Clearing/Hauling (Mitigated Tier 2+)					
	Dozer – D8 Cat	6.8	7.9	22,032	284.4
	Loader	4.9	4.0	15,876	144.0
	Water Truck	4.6	5.3	14,904	190.8
	Dump/Haul Truck	5.5	6.3	17,820	226.8
	Scraper	7.7	8.9	24,948	320.4
Underground Utility/Transmission Line					
	Track Backhoe	3.7	6.8	11,988	244.8
	Loader/Drill	3.7	6.8	11,988	244.8
	Water Truck	4.6	12.2	14,904	439.2
	Concrete Truck	1.4	3.8	4,536	136.8
	Dump/Haul Trucks	6.2	16.4	20,088	590.4
Solar Panel System Installation/Tower Placement					
	Skid Steer Cat	3.7	6.8	11,988	244.8
	Hydraulic Crane	2.3	6.1	7,452	219.6
	Dump/Haul Trucks	1.5	4.1	4,860	147.6
	Paver	3.4	6.4	11,016	230.4
	Roller	3.4	6.4	11,016	230.4
			TOTAL	205,416	3,895.2

Source: Investigative Science and Engineering, Inc., 2010.

Greenhouse Gas Emissions from Construction Vehicle Trips

Construction motor vehicles trips are the primary source of greenhouse gas emissions associated with the Proposed Action development. Construction vehicle trips to and from these land uses are the significant contributor of greenhouse gases. The Proposed Action site is expected to have a total construction trip generation of 750 ADT. Table 4.5-2 shows the GHG levels attributed to construction.

TABLE 4.5-2
Construction Vehicle GHG Levels

Vehicle Classification	Trip ADT	Total Emissions (lbs per day)	
		CO_2	N_2O
Light Duty Autos (LDA)	518	4,884.5	1.6
Light Duty Trucks (LDT)	146	1,721.0	0.8
Medium Duty Trucks (MDT)	48	770.6	0.3
Heavy Duty Trucks (HDT)	35	1,896.8	3.8
Buses (UBUS)	0	0.0	0.0
Motorcycles (MCY)	4	15.8	0.1
TOTAL	750	9,288.7	6.7
COMBINED TOTAL (in pounds per 360 day construction year)	4,057,884		

Source: Investigative Science and Engineering, Inc., 2010.

Because N_2O has a GWP of 296 with respect to CO_2, the equivalent CO_{2e} level would be 1,983.2 pounds for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 11,271.9 pounds. Assuming a worst-case 360-day construction period, the CO_{2e} load would be 4,057,884 pounds.

Total Construction-Based Greenhouse Gas Emissions Budget

Table 4.5-3 provides a comparison of greenhouse gas emissions by sector to put the total construction-based greenhouse gas emission budget for the Proposed Action in context. The State of California GHG Inventory performed by the California Air Resources Board (CARB), compiled statewide anthropogenic GHG emissions. It includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 2000 to 2008, but only the year 2008 is provided in Table 4.5-3.

The construction-based greenhouse gas emission budget for the Proposed Action would be the total of the previous sources. Therefore, the total construction GHG emissions for all vehicles would be 5,416,279 pounds of CO_{2e}. When pounds are converted to metric tons of CO_{2e}, the result is 2,457 metric tons or more of CO_{2e}. Table 4.5-4 shows the total GHG emissions budget. This is less than the CEQA threshold of 10,000 metric tons or more of CO_{2e} per year.

TABLE 4.5-3
California Greenhouse Gas Emission Inventory by Sector for the Year 2008

Sector	Emission Estimates (Million tonnes of CO2 equivalent)
Transportation	174.99
Electric Power	116.35
Commercial and Residential	43.13
Industrial	92.66
Recycling and Waste	6.71
Agriculture	28.06
Forestry	0.19

Source: CARB, 2010.

TABLE 4.5-4
Total Construction-Based GHG Emission Budget for Imperial Solar Energy Center West

Project Scenario	CO_{2e}
Construction Equipment Operations	1,358,395
Construction Vehicle Operations	4,057,884
TOTAL (in pounds per 360 day construction year)	5,416,279
TOTAL (converted to metric tons of CO_{2e})	2,457

Source: Investigative Science and Engineering, Inc., 2010.

With the implementation of Mitigation Measure AQ1 (see Section 4.4 of this EIR/EA), which requires all off-road construction diesel engines meet, at a minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines, the Proposed Action would contribute a total of 2,457 metric tons of CO_{2e} due to construction activities, which would not exceed the CEQA thresholds identified above, and therefore would not be considered a significant impact under CEQA. Nevertheless, consistent with the intent of AB 32, the project implements additional GHG reduction measures, which are described below in more detail (see below).

GHG Reduction Strategies

Consistent with the intent of AB 32, the proposed project should demonstrate that it has policies in place that would assist in providing a statewide reduction in CO_2. To this end, the following greenhouse gas offset measures have been shown to be effective by CARB and should be implemented wherever possible. These measures are also included in this EIR/EA as Mitigation Measures GHG1 and GHG2.

Diesel Equipment (Compression Ignition) Offset Strategies (40% to 60% Reduction) (Mitigation Measure GHG1):

1) Use electricity from power poles rather than temporary diesel power generators.
2) Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines.
3) Construction equipment used for the project should utilize EPA Tier 2 or better engine technology (Requirement under Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA.

Vehicular Trip (Spark Ignition) Offset Strategies (30% to 70% Reduction) (Mitigation Measure GHG2):

4) Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e. post transit schedules/routes).
5) Help construction employees rideshare by posting commuter ride sign-up sheets, employee home zip code map, etc.
6) When possible, arrange for a single construction vendor who makes deliveries for several items.

7) Plan construction delivery routes to eliminate unnecessary trips.

8) Keep construction vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

B. Long-Term Operational GHG Impact Analysis

According to U.S. Department of Energy (USDOE) records on file for all California energy providers, net energy generation for the state from all sources was 207,984,263 megawatt-hours (MW-h) (ISE, 2010). This produced 62,544,000 metric tons (MT) of CO_2 statewide. Thus, the effective CO_2 production per megawatt-hour would be 0.301 MT/MW-h.

Tables 4.5-5 and 4.5-6 provide the electricity consumption for the solar energy facility during operational generating and non-generating hours, respectively. Based on Tables 4.5-5 and 4.5-6, the operation of the Proposed Action would consume 4.84 MW-h of electricity during generating hours (peak electricity consumption) and 6.90 MW-h of electricity during non-generating hours (peak electricity consumption). Higher consumption levels were used (non-generating hours) to assess greenhouse gas emissions. As such, during the operational phase of the Proposed Action, CO_2 produced by non-generation consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day. Annually, the Proposed Action would produce 759.2 metric tons per year of CO_2, which is below the CEQA significance threshold of 10,000 metric tons or more CO_{2e} per year.

TABLE 4.5-5
Generating Hours (Peak Electricity Consumption)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	250	140	35
Inverter HVAC	250	1,400	350
O&M Building	1	50,000	50
SCADA System	1	5,000	5
TOTAL Power Consumption by Plant (kW):			440.0
TOTAL Electrical Consumption over 11 Hours (MW-h):			4.84

Assumptions: Maximum 200 MW_{AC} power production from facility; Maximum 1000 kW_{AC} voltage inverter size; HVAC systems required for cooling of inverter assemblies; Daily total of 11 hours of generation, 13 hours of non-generation.

Source: ISE, 2010.

TABLE 4.5-6
Non-Generating Hours (Peak Electricity Consumption)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	250	140	35
Inverter HVAC	250	1,400	350
O&M Building	1	50,000	50
SCADA System	1	5,000	5
House Lighting	1	175	91
TOTAL Power Consumption by Plant (kW):			531.0
TOTAL Electrical Consumption over 13 Hours (MW-h):			6.90

Assumptions: Maximum 200 MW_{AC} power production from facility; Maximum 1000 kW_{AC} voltage inverter size; HVAC systems required for cooling of inverter assemblies; Daily total of 11 hours of generation, 13 hours of non-generation.

Source: ISE, 2010.

C. Albedo Effect on Global Climate Change

With regards to the albedo effect of converting the existing fallow land into a solar energy facility site with PV or CPV solar panels, according to the Solar FPEIS (BLM, 2010), "the deployment of PV panels would effect a change in albedo, or the function of solar radiation reflected back into space by an area of the earth's surface. On a large scale such a change could conceivably affect the radiative balance of the earth's surface, and thus contribute to global warming, by slightly reducing the amount of sunlight reflected back to outer space, as the panels absorb more and reflect less solar energy than the underlying ground. Historical changes in earth-surface albedo, both positive and negative, have occurred from a number of other human-induced changes, for example, from the conversion of forests to farmland or from the construction of roads to buildings. The size of the effects and, with respect to global warming, would be more than compensated for by displaced fossil fuel CO_2 emissions, as discussed in the following paragraphs.

Typical surface albedo values range from 0.05 for asphalt to 0.95 for fresh snow, within a global mean planetary albedo of about 0.3 (BLM, 2010). An albedo for desert, where the project is located, ranges from 0.2 to 0.4, meaning that 20 to 40% of incident radiation is reflected back into space. Dark-colored sunlight-absorbing photovoltaic panels, by comparison typically reflect less than about 10% of incident solar radiation (albedo <0.1). Unlike GHG emissions measuring and understanding effects on the rate of albedo is less comprehensive and there currently are no quantification techniques developed to quantify these effects. As such, quantitative impacts of specific albedo effects of the Proposed Action on global climate change cannot be determined.

A recent study discussed potential impacts of the Earth's albedo modification on climate change associated with widespread deployment of photovoltaics. By 2100, radiative forcing of the albedo effect due to photovoltaics is predicted to range from about 0.003 to 0.029 W/m^2. At the same time, solar energy, including that from PV, would displace a considerable amount of GHG emissions, mainly CO_2 from fossil fuels, such as coal or natural gas. Radiative forcing from displacement of GHG emissions from solar energy

is estimated to range from -0.102 to -1.03 W/m^2 (negative values indicate a cooling effect). For comparison, 2.6 W/m^2, and albedo effect from previous land use changes is estimated at about -0.2 W/m^2. Therefore, climatic benefits resulting from widespread deployment of photovoltaics for fossil fuels far outweigh (more than 30 times larger) the unfavorable effects due to the small change in the Earth's albedo." As such, based on the analysis provided in the PEIS for solar energy projects, the Proposed Action would not result in a significant impact to global climate change as it relates to the albedo effect, rather, the Proposed Action would provide an overall benefit to air quality, as described in more detail below. A less than significant impact is identified for this issue area under CEQA.

D. Beneficial Impacts

The Proposed Action would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source. Table 4.5-7 depicts the estimated criteria pollutant emission rates from fossil-based power generation in the California grid mix and the amount of emissions anticipated to be displaced by the project annually.

TABLE 4.5-7
Estimated Criteria Pollutant Emission Reductions Created by the Proposed Action

Air Pollutant	Emission Factor (lb/MWh)	Annual Emission Displaced by Proposed Solar Facility (lbs)
CO	0.487	222,000
NO_x	0.227	103,400
PM_{10}	0.040	18,200
ROGs	0.032	14,600
SO_x	0.0022	1,000

Source: Wolff, G. 2005.

4.5.1.2 Alternative 1-Alternative Transmission Line Corridor

Indicator 1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Generate GHG emissions of* 10,000 metric tons of CO2-equivalent GHG emissions on an annual basis)*; or,*

Indicator 2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The construction and operation of Alternative 1-Alternative Transmission Line Corridor would not change compared to the Proposed Action. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

4.5.1.3 Alternative 2-Alternative Transmission Line Corridor

Indicator 1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Generate GHG emissions of* 10,000 metric tons of CO2-equivalent GHG emissions on an annual basis)*; or,*

Indicator 2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The construction and operation of Alternative 2-Alternative Transmission Line Corridor would not change compared to the Proposed Action. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

4.5.1.4 Alternative 3 – Reduced Solar Energy Facility Site

Indicator 1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Generate GHG emissions of* 10,000 metric tons of CO2-equivalent GHG emissions on an annual basis)*; or,*

Indicator 2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The construction and operation of Alternative 3-Reduced Solar Energy Facility Site would not change compared to the Proposed Action as the site would only be reduced in size by 7-8 acres. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

4.5.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on greenhouse gas emissions under CEQA.

4.5.1.6 CEQA Summary

Based on the analysis presented above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would not result in significant greenhouse gas emissions. However, the project will be required to be consistent with the intent of AB 32, with the implementation of Mitigation Measures GHG1 and GHG2, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be consistent with AB 32.

The Alternative 4-No Action/No Project Alternative will not result in a greenhouse gas emissions impact under CEQA. Therefore, no mitigation is required.

4.5.2 NEPA Environmental Assessment

4.5.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Short-term Construction Based GHG Analysis

Greenhouse Gas Emissions from Construction Equipment Operation

The Imperial Solar Energy Center West project would utilize a contingency of equipment required to grade and prepare the site for a period of roughly 340 to 360 days. Table 4.5-1 above shows the previous analysis of the required equipment and subsequent emissions budget, which includes implementation of Mitigation Measure AQ1. Because N_2O has a GWP of 296 with respect to CO_2, 3,895.2 pounds of N_2O can be expressed as an equivalent CO_2 (CO_{2e}) level of 1,152,979.2 pounds. Assuming a worst-case scenario 360-day construction period, the final equivalent CO_{2e} GHG load for the project's construction would be 1,358,395.2 pounds CO_{2e}, which is the total of 1,152,979.2 pounds CO_{2e} and the 205,416 pounds of CO_2 production shown in Table 4.5-1.

Greenhouse Gas Emissions from Construction Vehicle Trips

Construction motor vehicle trips are the primary source of greenhouse gas emissions associated with the Proposed Action development. Construction vehicle trips to and from these land uses are the primary contributor of greenhouse gases. The Proposed Action site is expected to have a total construction trip generation of 750 ADT. Table 4.5-2 above shows the GHG levels attributed to construction. The equivalent CO_{2e} level would be 1,983.2 pounds for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 11,271.9 pounds. Assuming a worst-case 360-day construction period, the CO_{2e} load would be 4,057,884 pounds.

Total Construction-Based Greenhouse Gas Emissions Budget

Table 4.5-3 provides a comparison of greenhouse gas emissions by sector to put the total construction-based greenhouse gas emission budget for the Proposed Action in context. The State of California GHG Inventory performed by the California Air Resources Board (CARB), compiled statewide anthropogenic GHG emissions. It includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 2000 to 2008, but only the year 2008 is provided in Table 4.5-3.

The construction-based greenhouse gas emission budget for the Proposed Action would be the total of the previous sources. Therefore, the total construction GHG emissions for all vehicles would be 5,416,279 pounds of CO_{2e}. When pounds are converted to metric tons of CO_{2e}, the result is 2,457 metric tons or more of CO_{2e}. Table 4.5-4 shows the total GHG emissions budget.

With the implementation of Mitigation Measure AQ1, as provided in Section 4.4 of this EIR/EA, the Proposed Action would contribute a total of 2,457 metric tons of CO_{2e} due to construction activities.

Long-Term Operational GHG Impact Analysis

According to U.S. Department of Energy (USDOE) records on file for all California energy providers, net energy generation for the state from all sources was 207,984,263 megawatt-hours (MW-h) (ISE, 2010). This produced 62,544,000 metric tons (MT) of CO_2 statewide. Thus, the effective CO_2 production per megawatt-hour would be 0.301 MT/MW-h.

Tables 4.5-5 and 4.5-6 above provide the electricity consumption for the solar energy facility during operational generating and non-generating hours, respectively. Based on Tables 4.5-5 and 4.5-6, the operation of the Proposed Action would consume 4.84 MW-h of electricity during generating hours (peak electricity consumption) and 6.90 MW-h of electricity during non-generating hours (peak electricity consumption). Higher consumption levels were used (non-generating hours) to assess greenhouse gas emissions. As such, during the operational phase of the Proposed Action, CO_2 produced by non-generation consumption would 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day. Annually, the Proposed Action would produce 759.2 metric tons per year of CO_2.

Albedo Effect on Global Climate Change

With regards to the albedo effect of converting the existing fallow land into a solar energy facility site with PV or CPV solar panels, according to the Solar FPEIS (BLM, 2010), "the deployment of PV panels would effect a change in albedo, or the function of solar radiation reflected back into space by an area of the earth's surface. On a large scale such a change could conceivably affect the radiative balance of the earth's surface, and thus contribute to global warming, by slightly reducing the amount of sunlight reflected back to outer space, as the panels absorb more and reflect less solar energy than the underlying ground. Historical changes in earth-surface albedo, both positive and negative, have occurred from a number of other human-induced changes, for example, from the conversion of forests to farmland or from the construction of roads to buildings. The size of the effects and, with respect to global warming, would be more than compensated for by displaced fossil fuel CO_2 emissions, as discussed in the following paragraphs.

Typical surface albedo values range from 0.05 for asphalt to 0.95 for fresh snow, within a global mean planetary albedo of about 0.3 (BLM, 2010). An albedo for desert, where the project is located, ranges from 0.2 to 0.4, meaning that 20 to 40% of incident radiation is reflected back into space. Dark-colored sunlight-absorbing photovoltaic panels, by comparison typically reflect less than about 10% of incident solar radiation (albedo <0.1). Unlike GHG emissions measuring and understanding effects on the rate of albedo is less comprehensive and there currently are no quantification techniques developed to quantify these effects. As such, quantitative impacts of specific albedo effects of the Proposed Action on global climate change cannot be determined.

A recent study discussed potential impacts of the Earth's albedo modification on climate change associated with widespread deployment of photovoltaics. By 2100, radiative forcing of the albedo effect due to photovoltaics is predicted to range from about 0.003 to 0.029 W/m^2. At the same time, solar energy, including that from PV, would displace a considerable amount of GHG emissions, mainly CO_2 from fossil fuels, such as coal or natural gas. Radiative forcing from displacement of GHG emissions from solar energy

is estimated to range from -0.102 to -1.03 W/m^2 (negative values indicate a cooling effect). For comparison, 2.6 W/m^2, and albedo effect from previous land use changes is estimated at about -0.2 W/m^2. Therefore, climatic benefits resulting from widespread deployment of photovoltaics for fossil fuels far outweigh (more than 30 times larger) the unfavorable effects due to the small change in the Earth's albedo." As such, based on the analysis provided in the PEIS for solar energy projects, the Proposed Action would not result in substantial direct or indirect impact to global climate change as it relates to the albedo effect, rather, the Proposed Action would provide an overall benefit to air quality, as described in more detail below.

Beneficial Impacts

The Proposed Action would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality by providing a clean, renewable energy source that could potentially replace other sources of energy. Table 4.5-7 above depicts the estimated criteria pollutant emission rates from fossil-based power generation in the California grid mix and the amount of emissions anticipated to be displaced by the project annually.

B. Alternative 1-Alternative Transmission Line Corridor

The construction and operation of Alternative 1-Alternative Transmission Line Corridor would be very similar to the Proposed Action. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The construction and operation of Alternative 2-Alternative Transmission Line Corridor would be very similar to the Proposed Action. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The construction and operation of Alternative 3-Reduced Solar Energy Facility Site would be similar to the Proposed Action. As such, the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

The Proposed Action would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Therefore, no greenhouse gas emissions would be produced from the construction and operation, and no potential greenhouse gas benefit from a renewable energy project would be achieved.

4.5.3 Mitigation Measures and Residual Impacts

With the implementation of Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line

Corridor, and Alternative 3-Reduced Solar Energy Facility Site would contribute to no more than 2,457 metric tons of CO_{2e} due to construction activities, which would not exceed the relevant significance threshold. Therefore, no additional mitigation is required. However, the project will be required to be consistent with the intent of AB 32, with the implementation of Mitigation Measures GHG1 and GHG2, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would be consistent with AB 32.

GHG1: *Diesel Equipment (Compression Ignition) Offset Strategies (40% to 60% Reduction):*

1) Use electricity from power poles rather than temporary diesel power generators.
2) Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines.
3) Construction equipment used for the project should utilize EPA Tier 2 or better engine technology (Requirement under Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA.

GHG2: *Vehicular Trip (Spark Ignition) Offset Strategies (30% to 70% Reduction):*

4) Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e. post transit schedules/routes).
5) Help construction employees rideshare by posting commuter ride sign-up sheets, employee home zip code map, etc.
6) When possible, arrange for a single construction vendor who makes deliveries for several items.
7) Plan construction delivery routes to eliminate unnecessary trips.
8) Keep construction vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

4.5.3.1 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure GHG1:
Implementation of Mitigation Measure GHG1 would not result in a direct or indirect impact because the mitigation requires implementation of measures to offset the diesel equipment emissions, which would provide a 40% to 60% reduction in diesel emissions. Implementation of this mitigation measure is consistent with the goals of AB 32.

Impact Analysis of Mitigation Measure GHG2:
Implementation of Mitigation Measure GHG2 would not result in a direct or indirect impact because the mitigation requires implementation of measures to offset vehicular trip emissions, which would provide a 30% to 70% reduction in vehicular trip emissions. Implementation of this mitigation measure is consistent with the goals of AB 32.

4.5.3.2 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

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4.6 Geology/Soils and Mineral Resources

Information contained in this section is summarized from the *Geotechnical Investigation Report, Imperial Solar Energy Center West* prepared by Landmark Consultants, Inc. (LCI) (May 2010). This document is provided on the attached CD of Technical Appendices as Appendix D of this EIR/EA.

CEQA Significance Criteria

For the purposes of this EIR/EA, a significant Geology/Soils and Mineral Resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property;*

Indicator 2: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map;

ii. Strong seismic ground shaking;

iii. Seismic-related ground failure, including liquefaction; or,

iv. Landslides.

Indicator 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse;*

Indicator 4: *Result in substantial soil erosion or loss of topsoil;*

Indicator 5: *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;*

Indicator 6: *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; or,*

Indicator 7: *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.*

NEPA Methodology

Evaluation of potential impacts to Geological and Soils resources was based on the Geotechnical Reports and field investigations. The indicators mentioned above provide a contextual relationship with which to evaluate the impacts of the Proposed Action and Alternatives in relation to the baseline existing conditions as described in Section 3.6. Review of the current data from the technical reports has provided information

with regard to the soil conditions and the geological makeup of the site. The impacts of the project to these resources is analyzed below and summarized to describe the direct and indirect impacts.

Evaluation of the Proposed Action's impacts on Geology/Soils and Mineral Resources issues for NEPA purposes was framed using the above mentioned CEQA indicators, because those indicators capture the range of potential Geology/Soils and Mineral Resources impacts that could occur as a result of the Proposed Action and Alternatives.

4.6.1 CEQA Environmental Analysis

4.6.1.1 Proposed Action

The project site (which includes the solar energy facility, transmission corridor, and access road) is relatively flat with no steep topography. As such, grading on the solar energy facility site, transmission corridor, and access road will be minimal due to the flat topography of the site. The project site is generally suitable for development, as it is relatively flat and there are no geologic characteristics of concern, with the exception of seismicity and the underlying soils. The site is underlain with expansive clay soils, which can potentially reduce soils strength and result in structural failure. However, potential effects caused by underlying clay soils are mitigatable with the removal and replacement of the expansive soils with materials that properly support the surface-level uses. Initial construction of the transmission corridor would begin with site preparation, consisting of grading of access roads. The use of foundations would be limited for the structural mat for the O&M building and footings for the transmission towers.

A. Geology

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

Implementation of the Proposed Action will involve remedial grading at the solar facility site where buildings are located. Remedial grading for buildings will likely consist of removal and replacement of the upper three feet of expansive clay soils with non-expansive soils. An alternative soil mitigation measure is to design foundations to resist expansive forces in accordance with the California Building Code (CBC) Chapter 18, Section 1805 or Post-Tensioning Institute, 2004 method. This requires grade-beam stiffened floor slabs (18 feet maximum on center) or post tensioned floor slabs. Design soil bearing pressure shall equal 1,500 psf. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength, causing structural failure. This is considered a significant impact under CEQA. Implementation of Mitigation Measure GS1 will reduce the impact of existing expansive soil conditions on the project site to a level less than significant under CEQA. Mitigation Measure GS1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Geotechnical Investigation, Imperial Solar Energy Center West*, prepared by Landmark Consultants, Inc. (2010), including the removal and replacement of these soils prior to construction of buildings.

B. Seismicity

Indicator 2: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map;

ii. Strong seismic ground shaking;

iii. Seismic-related ground failure, including liquefaction; or,

iv. Landslides.

Indicator 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.*

Ground Shaking

The project site is located in a seismically active region, and as such, is likely to be subject to at least one moderate to major earthquake during the design life of the structures, approximately 30 years. The potential for ground acceleration, or shaking, on the project site is considered similar to the Southern California region. The closest mapped active faults in the region include: the Laguna Salada fault located approximately 6.5 miles to the southwest; the Superstition Hills fault located approximately 10 miles to the northeast; and the Imperial Fault located approximately 16 miles to the northeast. The potential impact related to ground shaking would be addressed through compliance with the most current California Building Code (CBC) requirements, as the level of risk for the project site is the level of risk assumed by the CBC minimum design requirements. No significant impact under CEQA is identified for this issue area.

Surface Rupture/Faulting

The project site is not within a State of California, Alquist-Priolo Earthquake Fault Zone. Surface fault rupture is considered to be unlikely at the project site because of the well-delineated fault lines through the Imperial Valley as shown on United States Geological Survey (USGS) and California Geological Survey maps. No significant impact under CEQA is identified for this issue area.

Liquefaction

The four conditions that are generally required for liquefaction to occur all exist, to some degree, on the project site. LCI (2010) estimated that total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. In addition, the potential for ground rupture or sand boil formation is unlikely due to the thickness of the overlying unliquefiable soil. Sand boils are conical piles of sand derived from the upward flow of groundwater caused by excess porewater pressures created during strong ground shaking. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. Liquefaction induced lateral spreading is not expected to occur at the

project site due to the planar topography. Therefore, no significant impact under CEQA is identified for this issue area.

Landslides

The hazard of landsliding on the project site is unlikely due to the regional planar topography. No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. No significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

In general, the southeastern 300 acres of the solar facility site is underlain by clays of high to very high expansion potential. Based on observations by LCI, the onsite near surface soils vary in their potential for expansion. LCI reported Expansion Index (EI) values ranging from 100 (high) to 160 (very high). The potential for expansive soils to affect the Proposed Action is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact of existing unsuitable soil conditions on the project site to a level less than significant under CEQA. Mitigation Measure GS1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the abovementioned geotechnical evaluation, which identifies that the expansive soils can be addressed through moisture conditioning and specific foundation designs.

With respect to building pad construction, according to the geotechnical evaluation, the onsite sand soils were found to have low levels of sulfate ion concentration, but the clay soils were found to have severe levels. Sulfate ions in high concentrations can attack the cementitious material in concrete, causing weakening of the cement and ultimately deterioration. Chloride ions can cause corrosion or reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electrochemical corrosion processes. This is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact associated with these issues to a level less than significant under CEQA. Mitigation Measure GS1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the abovementioned geotechnical evaluations, which also identify special mixes and coatings to protect concrete and steel from corrosion.

D. Differential Settlement

Indicator 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.*

LCI estimated that total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils

are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned as part of the project are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. Therefore, no impact under CEQA is identified for this issue area.

E. Soil Erosion

Indicator 4: Result in substantial soil erosion or loss of topsoil.

Construction activity associated with site development may result in water-driven erosion of soils. However, a dust control plan, approved by the air pollution control district, will be implemented. Implementation of Mitigation Measure HWQ1 (see Section 4.11 – *Hydrology and Water Quality* - of this EIR/EA) will reduce the potential soil erosion impact to a level less than significant under CEQA. Mitigation Measure HWQ1 requires implementation of a Storm Water Pollution Prevention Plan (SWPPP) incorporating required Best Management Practices (BMPs) on the construction site in order to reduce any impacts related to soil erosion and water quality to a level less than significant under CEQA.

F. Mineral Resources

Indicator 5: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Indicator 6: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The project site was previously utilized for agricultural production and is not utilized for mineral resource production. No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, the Proposed Action would not directly or indirectly affect the availability of any known mineral resources that would be of value to the region and the residents of the state or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Thus, the Proposed Action would have no significant direct or indirect effect on the availability of mineral resources under CEQA.

G. Septic Tanks/Alternative Wastewater Disposal System

Indicator 7: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The Proposed Action will require the use of a septic tank system to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. Therefore, no significant impact under CEQA is identified for this issue area.

4.6.1.2 Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site (which includes the solar energy facility, the Alternative Transmission Line Corridor, and access road) is relatively flat with no steep topography and is generally suitable for development. As such, minimal grading will be required due to the flat topography of the site.

A. Geology

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site is underlain with clay soils that have a high to very high expansion potential. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength. The presence of expansive soils on the project site is considered a significant impact under CEQA. However, with implementation of Mitigation Measure GS1, this impact will be reduced to level less than significant under CEQA.

B. Seismicity

Indicator 2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- *i. Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map;*
- *ii. Strong seismic ground shaking;*
- *iii. Seismic-related ground failure, including liquefaction; or,*
- *iv. Landslides.*

Indicator 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

Ground Shaking

The Alternative 1-Alternative Transmission Line Corridor project site is located in a seismically active region, and as such is likely to be subject to at least one moderate to major earthquake during the design life of the structures, approximately 30 years. The potential for ground acceleration, or shaking, on the project site is considered similar to the Southern California region. However, implementation of Alternative 1-Alternative Transmission Line Corridor would require compliance with the most recent CBC requirements to address the potential impact related to ground shaking. Therefore, no significant impact under CEQA is identified for this issue area.

Surface Rupture/Faulting

The Alternative 1-Alternative Transmission Line Corridor project site is not located within a State of California, Alquist-Priolo Earthquake Zone. As such, surface rupture is considered unlikely to occur on the project site. Therefore, no significant impact under CEQA is identified for this issue area.

Liquefaction

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. In addition, the potential for ground rupture or sand boil formation is unlikely due to the thickness of the overlying unliquefiable soil. Liquefaction induced lateral spreading is not expected to occur at the project site due to the planar topography. Therefore, no significant impact under CEQA is identified for this issue area.

Landslides

The hazard of landsliding is unlikely due to the flat topography of the project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. Therefore, no significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

Similar to the Proposed Action, the southeastern 300 acres of the solar facility portion of Alternative 1-Alternative Transmission Line Corridor is underlain by clays of high to very high expansion potential. The potential for expansive soils to affect the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact of existing unsuitable soil conditions on the project site to a level less than significant under CEQA.

According to the geotechnical investigation, the onsite soils contain sulfates and chlorides. The presence of sulfate ion concentrations can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration. The presence of chloride ions can cause corrosion of reinforcing steel, anchor bolts, and other buried metal conduits. As such, the potential for corrosive soils on the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact associated with corrosive soils to a level less than significant under CEQA.

D. Differential Settlement

Indicator 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch on the Alternative 1-Alternative Transmission Line Corridor project site. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned as part of the project are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. Therefore, no impact under CEQA is identified for this issue area.

E. Soil Erosion

Indicator 4: Result in substantial soil erosion or loss of topsoil.

Construction activity associated with site development may result in water-driven erosion of soils. This is considered a significant short-term impact under CEQA. However, a dust control plan approved by the air pollution control district will be implemented. Implementation of Mitigation Measure HWQ1 (see Section 4.11-Hydrology and Water Quality of this EIR/EA) will reduce the potential soil erosion impact to a level less than significant under CEQA.

F. Mineral Resources

Indicator 5: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Indicator 6: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site was previously utilized for agricultural production and is not utilized for mineral resource production. No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, implementation of Alternative 1-Alternative Transmission Line Corridor would not adversely affect the availability of any known mineral resources within the project site. Thus, no impact under CEQA has been identified for this issue area.

G. Septic Tanks/Alternative Wastewater Disposal System

Indicator 7: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Similar to the Proposed Action, the project under Alternative 1-Alternative Transmission Line Corridor will require the use of a septic tank system to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. Therefore, no significant impact under CEQA is identified for this issue area.

4.6.1.3 Alternative 2-Alternative Transmission Line Corridor

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor project site (which includes the solar energy facility, the Alternative Transmission Line Corridor, and access road) is relatively flat with no steep topography and is generally suitable for development. As such, minimal grading will be required due to the flat topography of the site.

A. Geology

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor project site is underlain with clay soils that have a high to very high expansion potential. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength. The presence of expansive soils on the project site is considered a significant impact under CEQA. However, with implementation of Mitigation Measure GS1, this impact will be reduced to level less than significant under CEQA.

B. Seismicity

Indicator 2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map;

ii. Strong seismic ground shaking;

iii. Seismic-related ground failure, including liquefaction; or,

iv. Landslides.

Indicator 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

Ground Shaking

The Alternative 2-Alternative Transmission Line Corridor project site is located in a seismically active region, and as such is likely to be subject to at least one moderate to major earthquake during the design life of the structures, approximately 30 years. The potential for ground acceleration, or shaking, on the project site is considered similar to the Southern California region. However, implementation of Alternative 2-Alternative Transmission Line Corridor would require compliance with the most recent CBC requirements to address the potential impact related to ground shaking. Therefore, no significant impact under CEQA is identified for this issue area.

Surface Rupture/Faulting

The Alternative 2-Alternative Transmission Line Corridor project site is not located within a State of California, Alquist-Priolo Earthquake Zone. As such, surface rupture is considered unlikely to occur on the project site. Therefore, no significant impact under CEQA is identified for this issue area.

Liquefaction

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. In addition, the potential for ground rupture or sand boil formation is unlikely due to the thickness of the overlying unliquefiable soil. Liquefaction induced lateral spreading is not expected to occur at the project site due to the planar topography. Therefore, no significant impact under CEQA is identified for this issue area.

Landslides

The hazard of landsliding is unlikely due to the flat topography of the project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. Therefore, no significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

Indicator 1: *Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.*

Similar to the Proposed Action, the southeastern 300 acres of the solar facility portion of Alternative 2-Alternative Transmission Line Corridor is underlain by clays of high to very high expansion potential. The potential for expansive soils to affect the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact of existing unsuitable soil conditions on the project site to a level less than significant under CEQA.

According to the geotechnical investigation, the onsite soils contain sulfates and chlorides. The presence of sulfate ion concentrations can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration. The presence of chloride ions can cause corrosion of reinforcing steel, anchor bolts, and other buried metal conduits. As such, the potential for corrosive soils on the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact associated with corrosive soils to a level less than significant under CEQA.

D. Differential Settlement

Indicator 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.*

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch on the Alternative 2-Alternative Transmission Line Corridor project site. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned as part of the project are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. Therefore, no impact under CEQA is identified for this issue area.

E. Soil Erosion

Indicator 4: Result in substantial soil erosion or loss of topsoil.

Construction activity associated with site development may result in water-driven erosion of soils. This is considered a significant short-term impact under CEQA. However, a dust control plan approved by the air pollution control district will be implemented. Implementation of Mitigation Measure HWQ1 (see Section 4.11-Hydrology and Water Quality of this EIR/EA) will reduce the potential soil erosion impact to a level less than significant under CEQA.

F. Mineral Resources

Indicator 5: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Indicator 6: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor project site was previously utilized for agricultural production and is not utilized for mineral resource production. No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, implementation of Alternative 2-Alternative Transmission Line Corridor would not adversely affect the availability of any known mineral resources within the project site. Thus, no impact under CEQA has been identified for this issue area.

G. Septic Tanks/Alternative Wastewater Disposal System

Indicator 7: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Similar to the Proposed Action, the project under Alternative 2-Alternative Transmission Line Corridor will require the use of a septic tank system to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. Therefore, no significant impact under CEQA is identified for this issue area.

4.6.1.4 Alternative 3-Reduced Solar Energy Facility Site

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site project site (which includes the reduced solar facility site, the Proposed Action Transmission Line Corridor, and access road) is relatively flat with no steep topography and is generally suitable for development. As such, minimal grading will be required due to the flat topography of the site.

A. Geology

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

The Alternative 3-Reduced Solar Energy Facility Site project site is underlain with clay soils that have a high to very high expansion potential. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength. The presence of expansive soils on the project site is considered a significant impact under CEQA. However, with implementation of Mitigation Measure GS1, this impact will be reduced to level less than significant under CEQA.

B. Seismicity

Indicator 2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map;

ii. Strong seismic ground shaking;

iii. Seismic-related ground failure, including liquefaction; or,

iv. Landslides.

Indicator 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

Ground Shaking

The Alternative 3-Reduced Solar Energy Facility Site project site is located in a seismically active region, and as such is likely to be subject to at least one moderate to major earthquake during the design life of the structures, approximately 30 years. The potential for ground acceleration, or shaking, on the project site is considered similar to the Southern California region. However, implementation of Alternative 3-Reduced Solar Energy Facility Site would require compliance with the most recent CBC requirements to address the potential impact related to ground shaking. Therefore, no significant impact under CEQA is identified for this issue area.

Surface Rupture/Faulting

The Alternative 3-Reduced Solar Energy Facility Site project site is not located within a State of California, Alquist-Priolo Earthquake Zone. As such, surface rupture is considered unlikely to occur on the project site. Therefore, no significant impact under CEQA is identified for this issue area.

Liquefaction

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. In addition, the potential for ground rupture or sand boil formation is unlikely due to the thickness of the overlying unliquefiable soil. Liquefaction induced lateral spreading is not expected to occur at the project site due to the planar topography. Therefore, no significant impact under CEQA is identified for this issue area.

Landslides

The hazard of landsliding is unlikely due to the flat topography of the project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. Therefore, no significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

Indicator 1: Be located on expansive soil, as defined in the latest California Building Code, creating substantial risk to life or property.

Similar to the Proposed Action, the southeastern 300 acres of the solar facility portion of Alternative 3-Reduced Solar Energy Facility Site is underlain by clays of high to very high expansion potential. The potential for expansive soils to affect the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact of existing unsuitable soil conditions on the project site to a level less than significant under CEQA.

According to the geotechnical investigation, the onsite soils contain sulfates and chlorides. The presence of sulfate ion concentrations can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration. The presence of chloride ions can cause corrosion of reinforcing steel, anchor bolts, and other buried metal conduits. As such, the potential for corrosive soils on the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the impact associated with corrosive soils to a level less than significant under CEQA.

D. Differential Settlement

Indicator 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

Similar to the Proposed Action, total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch on the Alternative 3-Reduced Solar Energy Facility Site project site. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned as part of the project are sufficient to result in liquefaction induced settlement greater than the surrounding land mass. Therefore, no impact under CEQA is identified for this issue area.

E. Soil Erosion

Indicator 4: Result in substantial soil erosion or loss of topsoil.

Construction activity associated with site development may result in water-driven erosion of soils. This is considered a significant short-term impact under CEQA. However, a dust control plan approved by the air pollution control district will be implemented. Implementation of Mitigation Measure HWQ1 (see Section 4.11-Hydrology and Water Quality of this EIR/EA) will reduce the potential soil erosion impact to a level less than significant under CEQA.

F. Mineral Resources

Indicator 5: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Indicator 6: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site project site was previously utilized for agricultural production and is not utilized for mineral resource production. No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, implementation of Alternative 3-Reduced Solar Energy Facility Site would not adversely affect the availability of any known mineral resources within the project site. Thus, no impact under CEQA is identified for this issue area.

G. Septic Tanks/Alternative Wastewater Disposal System

Indicator 7: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Similar to the Proposed Action, the project under Alternative 3-Reduced Solar Energy Facility Site will require the use of a septic tank system to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. Therefore, no significant impact under CEQA is identified for this issue area.

4.6.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on geology/soils and mineral resources from the Alternative 4-No Action/No Project Alternative.

4.6.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will result in geology and soils impacts. Mitigation Measure GS1 will reduce the geology and soils impacts to a level less than significant under CEQA. No significant impact to mineral resources will occur with implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor and Alternative 3-Reduced Solar Energy Facility Site.

The Alternative 4-No Action/No Project Alternative will not result in geology/soils or mineral resources impacts under CEQA. Therefore, no mitigation is required.

4.6.2 NEPA Environmental Assessment

4.6.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.6.1.1, the project site is underlain with expansive clay soils, which can potentially reduce soils strength. Implementation of Mitigation Measure GS1 will reduce the effect with regards to soil instability on the Proposed Action. With respect to building pad construction, according to the geotechnical evaluation, the onsite soils contain sulfates and chlorides. The presence of sulfate ion concentrations can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration. The presence of chloride ions can cause corrosion of reinforcing steel, anchor bolts, and other buried metal conduits. Implementation of Mitigation Measure GS1 would reduce the effects of highly corrosive soils.

The project site is located in a seismically active region of Southern California, and as such, is likely to be subject to ground shaking as the result of at least one moderate earthquake during the design life of the project, approximately 30 years. The closest mapped active faults in the region include: the Laguna Salada fault located approximately 6.5 miles to the southwest; the Superstition Hills fault located approximately 10 miles to the northeast; and the Imperial Fault located approximately 16 miles to the northeast. The potential effect related to ground shaking would be addressed through compliance with the most recent California Building Code (CBC) requirements, as the level of risk for the project site is the level of risk assumed by the CBC minimum design requirements.

The project site is not within a State of California, Alquist-Priolo Earthquake Fault Zone. Surface fault rupture is considered to be unlikely at the project site due to well-delineated fault lines through the Imperial Valley as shown on United States Geological Survey (USGS) and California Geological Survey maps.

The hazard of landsliding is unlikely due to the flat topography of the project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation.

Total seismic-induced settlement was on the order of 1 inch with liquefaction induced differential settlements estimated to be approximately ¾ inch. However, potentially liquefiable sandy soils are overlain by 30 feet of non-liquefying soils, which resist groundwater movement. As such, it is unlikely that the light structure loads planned are sufficient to result in liquefaction induced settlement grater than the surrounding land mass.

Construction activity associated with site development may result in water-driven erosion of soils. However, a dust control plan approved by the air pollution control district will be implemented. Furthermore, implementation of Mitigation Measure HWQ1 will reduce the effect of soil erosion.

The project site was previously utilized for agriculture and is not utilized for mineral resource production. No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, the Proposed Action would not directly or indirectly affect the availability of any known mineral resources that would be of value to the region and the residents of the state or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The Proposed Action will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks.

B. Alternative 1-Alternative Transmission Line Corridor

The Geology/Soils and Mineral Resources impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Geology/Soils and Mineral Resources impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Geology/Soils and Mineral Resources impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.6.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regards to geology/soils and mineral resources from the Alternative 4-No Action/No Project Alternative.

4.6.3 Mitigation Measure and Residual Impacts

4.6.3.1 Proposed Action

GS1 Prior to approval of final engineering and grading plans for the Imperial Solar Energy West project site, the County shall verify that all recommendations contained in the *Geotechnical Investigation Report, Imperial Solar Energy Center West,* prepared by Landmark Consultants, Inc. (May 2010) has been incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design. The County's soil engineer and engineering geologist shall review grading plans prior to finalization, to verify plan compliance with the recommendations of the report. All development on the project site shall be in accordance with Title 24, California Code of Regulations.

4.6.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measure GS1 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.6.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measure GS1 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.6.3.4 Alternative 3-Reduced Solar Energy Facility Site

Mitigation Measure GS1 identified above for the Proposed Action will also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.6.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed under the Alternative 4-No Action/No Project Alternative, as no direct impacts on geology/soils and mineral resources under CEQA would occur.

4.6.3.6 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure GS1:

Implementation of Mitigation Measure GS1 would not result in a direct or indirect impact because the mitigation requires that all recommendations contained in the *Geotechnical Investigation Report, Imperial Solar Energy Center West,* prepared by Landmark Consultants, Inc. (May 2010) be incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design.

4.6.3.7 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

4.7 Cultural Resources

The BLM has found that construction of the CSOLAR ISEC West Project has the potential to affect historic properties, but that through the imposition of conditions, the undertaking of selecting either the Proposed Action, Alternative 1, or Alternative 3 would not adversely affect historic properties, nor alter any of the characteristics or values that would qualify any of the properties within the area of potential effect (APE) for inclusion on the National Register of Historic Places (NRHP). The regulations at 36 CFR 800.5(b) provide that an agency official, in consultation with the State Historic Preservation Officer (SHPO), may propose a finding of no adverse effect when the undertaking is modified or sufficient conditions are imposed to avoid adverse effects. If the BLM selects Alternative 2, the BLM has determined that there will be an adverse effect to historic properties and would need to resolve the adverse effect through a Memorandum of Agreement (MOA) prior to the record of decision. This would be completed in consultation with the SHPO, Advisory Council on Historic Preservation (ACHP), Tribes, and interested parties.

RECON Environmental, Inc. (RECON) conducted a cultural resources study for this undertaking to determine the effects to historic properties located within the APE for direct effects. The results of the study are detailed in their report entitled *Class III Cultural Resources Survey for the Imperial Solar Energy Center West Project, Imperial County, California (June 2011*). A draft historic built environment study, prepared by ASM Affiliates (ASM), entitled *Evaluation and Analysis of Effects on the Historic Built Environment Properties within the Area of Potential Effect of the Imperial Solar Energy Center West Imperial County, California* (ASM Affiliates, Carlsbad CA, March 2011) details the results of the study conducted to determine the effects of the project on historic built environment properties located within the APE for indirect effects. Results from both studies are summarized in this EIR/EA.

The BLM has entered into consultation with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), Tribes and interested parties on completing all procedural steps outlined in 36 CFR 800, the implementing procedures for the National Historic Preservation Act, for this undertaking. The BLM continues to consult with Indian tribes about this undertaking. Fourteen federally recognized Indian tribes and one non-federally recognized tribe have been invited to consult on this undertaking, including the Barona Band of Mission Indians, Campo Kumeyaay Nation, Cocopah Indian Tribe, Ewiiaapaayp Band of Kumeyaay Indians, Fort Yuma Indian Reservation, Jamul Indian Village, Kwaaymii Laguna Band of Indians, La Posta Band of Kumeyaay Indians, Manzanita Band of Kumeyaay Indians, Mesa Grande Band of Mission Indians, San Pasqual Band of Diegueno Indians, Santa Ysabel Band of Diegueno Indians, Sycuan Band of Kumeyaay Nation, Torres-Martinez Desert Cahuilla Indians and Viejas Band of Kumeyaay Indians. The BLM notified the Tribes and requested government-to-government consultation by letter on June 24, 2010, the earliest stages of application review. The BLM provided the Tribes a copy of the Class III cultural resources report and requested their views and comments on November 1, 2010. Tribes were invited to a meeting and site visit in El Centro on November 16, 2010 to discuss the project, including the results of our analysis and review of the undertaking.

Forty-four sites are located within the APE for direct effects. RECON has recommended that one site is eligible for inclusion on the NRHP without further study, while the remaining 43 sites would require additional testing and evaluation to render an eligibility recommendation. However, without the benefit of additional

study, they offer a preliminary conclusion that 28 sites would appear to be eligible under Criterion D and that 15 sites would appear to be not-eligible for the NRHP. RECON also proposed that a new archaeological district be considered for sites that are located below the 40 foot contour or high water mark of ancient Lake Cahuilla and are associated with the immediate recession or final recession of ancient Lake Cahuilla. Sites within the district are significantly different than those above the 40 foot contour and represent a contemporary use of relatively limited duration. Additional research would be required to define the archaeological district, but it would be considered eligible under Criterion D of the NRHP.

At the time of publication of the Final EIR/EA, tribal consultation was ongoing and formal consultation with the SHPO was continuing with BLM's recommendation of a finding of no adverse effect on cultural resources.

CEQA Significance Criteria

The project is also subject to State laws that form the basis of CEQA impacts analysis. The County has adopted as significance criteria those found in CEQA Guidelines Appendix G, CEQA Guidelines 15064.5(a) and Sections 5024, 21083.2 and 21084.1 of the Public Resources Code, and CEQA Guidelines 15064.5(c). Following these sections, cultural resource impacts are considered to be significant if implementation of the project considered would result in any of the following:

1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5.

Pursuant to CEQA Guidelines § 15064.5(a)(1) and (2), this includes a resource listed in or determined to be eligible for listing in the CRHR (PRC § 5024.1 (d)(1)), or a local register of historic places. There is also a rebuttable presumption that resources identified in a historical resources survey meeting the requirements of PRC § 5024.1(g) are significant.

Generally, a resource is considered "historically significant" if it meets one of the following criteria for listing on the CRHR (PRC Section 5024.1) (CEQA Guidelines 15064.3 (a)(3):

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California or national history;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to meeting one of the above criteria, a resource must have "integrity"; that is, it must evoke the resource's period of significance or, in the case of criterion 4, it may be disturbed, but it must retain enough

intact and undisturbed deposits to make a meaningful data contribution to regional research issues (CCR Title 14, Chapter 11.5 Section 4852 [c]).

State CEQA Guidelines Section 15064.5(b) defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired, which occurs when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources, National Register of Historic Resources, a local register or historic resources.

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its identification in an historical resources survey meeting the requirements of PRC § 5024.1 (g), unless the public agency establishes by a preponderance of the evidence that the resource is not historically or culturally significant.

2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5.

An archaeological site should be evaluated for its potential as a significant historical resource (CEQA Guidelines § 15064.5 (c)(1) and (2) and if it is, impacts to the resource would be assessed under (1) above. CEQA addresses potential impacts to unique archaeological resources (PRC 21083.2).

"Unique archaeological resource" means an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important historic event or person.

For the Proposed Action and Alternative(s), the applicant and public agencies agree to treat any unknown discovered unique archaeological resources as a historically significant resource. CEQA Guidelines 15064.5(c)(4) confirms that if an archaeological resources is neither a unique archaeological nor an historic resource, the effects of the project on those resources shall not be considered a significant effect on the environment.

3) Disturb any human remains, including those interred outside of formal cemeteries.

In the event of accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the project applicant would suspend excavation and/or disturbance and contact the County coroner. If the coroner determines the remains to be Native American, the coroner shall

contact the Native American Heritage Commission within 24 hours and the NAHC would execute procedures in coordination with the project applicant and the appropriate dignitary pursuant to PRC 5097.98. Alternative arrangements pursuant to CEQA Guidelines 15064.5(e)(2) may be required.

CEQA Summary

Based on the foregoing, the CEQA Thresholds of Significance can be best summarized as follows: Cultural resource impacts are considered to be significant if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would result in any of the following:

CEQA Indicator 1: *The project causes a substantial adverse change in the significance of a historical resource listed or meeting the eligibility requirements for listing on a national, state or local register of historic places or is presumed to be significant pursuant to a qualified survey. Substantial adverse changes include the destruction, disturbance, or adverse alteration of characteristics or elements of a resource that cause it to be significant or eligible for listing.*

CEQA Indicator 2: *The project causes a substantial adverse change in the significance of an archaeological resource qualifying as a "unique archaeological resource" or listed or meeting the eligibility requirements for listing on a national, state or local register or historic places or is presumed to be significant pursuant to a qualified survey. Substantial adverse changes include the destruction, disturbance, or adverse alteration of characteristics or elements of a resource that cause it to be significant or eligible for listing.*

CEQA Indicator 3: *The project disturbs any human remains, including those interred outside of formal cemeteries.*

NEPA/NHPA Methodology

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the Federal Government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." Cultural resources need not be determined eligible for the NRHP as stated in the NHPA to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality, 40 CFR 1500-1508. NEPA provides for public participation in the consideration of cultural resources issues, among others, during agency decision-making.

NEPA and NHPA require federal agencies to consider the effect of their undertakings on significant cultural resources, known as historic properties. The federal significance of an archaeological site or a built environment resource is defined by the NRHP. These criteria, defined in 36 CFR § 60.4, state that a resource must be at least 50 years old (unless meeting exceptional criteria) and possess the quality of significance in American history, architecture, archaeology, engineering, and culture and is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship,

feeling and association and meet one or more significance criteria, discussed below under "Identification and National Register of Historic Places Evaluation."

Section 106 Review Process

The federal government has developed laws and regulations designed to protect cultural resources that may be affected by actions undertaken, regulated, or funded by federal agencies. Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA through its implementing regulations, 36 CFR 800 (Protection of Historic Properties). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA.

Section 106 of NHPA (16 USC 470f) requires federal agencies to consider the impacts of their undertakings on historic properties, which includes any historic district, site, building, structure, object, or properties of traditional religious and cultural importance to Native American that are included in or eligible for inclusion in the NRHP. Section 106 also affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR Part 800.1). Under Section 106, federal agencies are required to assess the effects of an undertaking on historic properties to determine if they are adverse, and if so to propose mitigation measures to resolve such effects. Historic properties covered by Section 106 are those resources that are listed or are eligible for listing in the NRHP per the criteria listed at 36 CFR 60.4 (Advisory Council on Historic Preservation, 2000) and are presented in the next subsection below.

The NHPA established the ACHP and SHPO to assist federal and State officials regarding matters related to historic preservation. As previously mentioned above, the administering agency, the ACHP, has authored regulations implementing Section 106 that are located in 36 CFR Part 800, Protection of Historic Properties (recently revised, effective January 11, 2001). 36 CFR Part 800 provides detailed procedures, called the Section 106 process, by which the assessment of effects to historic properties, as required by the Act, is implemented.

Given that the proposed action is being considered for a loan guarantee by DOE and the associated transmission facilities are located on lands managed by BLM, and requires authorization by the BLM, the proposed action is considered an undertaking, and therefore must comply with the NHPA and implementing regulations. NEPA addresses compliance with the NHPA, and the required environmental documentation, whether it is an Environmental Assessment (EA) or an Environmental Impact Statement (EIS), must discuss cultural resources. It is important to recognize, however, that project compliance with NEPA does not mean the project is in compliance with the NHPA.

Under the NHPA (36 CFR Part 800), three steps are required to demonstrate compliance with Section 106: (1) identification of historic properties that may be affected by an undertaking; (2) assessment of project effects on those properties; and (3) resolution of adverse effects. All three steps require consultation with interested Native American tribes, local governments, and other interested parties.

Identification and National Register of Historic Places Evaluation

The identification and evaluation of historic properties are outlined in the following regulations. 36 CFR Part 800.3 discusses the consultation process. Section 800.4 sets out the steps the ACHP must follow to identify historic properties. 36 CFR Part 800.4(c)(1) outlines the process for NRHP eligibility determinations.

The Historic Sites, Buildings and Antiquities Act of 1935 required the survey, documentation, and maintenance of historic and archaeological sites in an effort to determine which resources commemorate and illustrate the history and prehistory of the United States. The NHPA expanded on this legislation and assigned the responsibility for carrying out this policy to the United States Department of the Interior, National Park Service (NPS). Per NPS regulations, 36 CFR Part 60.4, and guidance published by the NPS, National Register Bulletin, Number 15, How to Apply the National Register Criteria for Evaluation, different types of values embodied in districts, sites, buildings, structures, and objects are recognized. These values fall into the following categories:

1. Associate Value (Criteria A and B): Properties significant for their association with or linkage to events (Criterion A) or persons (Criterion B) important in the past.
2. Design or Construction Value (Criterion C): Properties significant as representatives of the man-made expression of culture or technology.
3. Information Value (Criterion D): Properties significant for their ability to yield important information about prehistory or history.

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association. Cultural resources that are determined eligible for listing in the NRHP, along with SHPO concurrence, are termed "historic properties" under Section 106, and are afforded the same protection as sites listed in the NRHP. Sites that have not been evaluated for eligibility to the National Register are assumed eligible for project management purposes, until a formal evaluation can be completed.

The Project Area of Analysis, the Area of Potential Impacts, and the Cultural Resources Inventory

The project area for analysis selected for the proposed action, per the requirements of CEQA, NEPA and the NHPA is described in Section 3.7.2.1. As explained in Section 3.7, RECON conducted a cultural resources survey of the proposed project area – *see Class III Cultural Resources Survey for the Imperial Solar Energy Center West Project* prepared by RECON Environmental, Inc. (June 2011).

Assessing Action Impacts

The core of a cultural resources analysis under NEPA or Section 106 is to assess the character of the effects that a proposed or alternative action may have on historic properties. The analysis takes into account 3 primary types of potential impacts which each of the three above regulatory programs defines and handles in slightly different ways. The three types of potential impacts include direct, indirect, and cumulative impacts.

Direct and Indirect Impacts

Direct and indirect impacts are those that are more clearly and immediately attributable to the implementation of proposed or alternative actions. In the abstract, direct impacts to cultural resources are

those associated with project development, construction, and co-existence, while indirect impacts to archaeological resources are those which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility. Similarly, historic structures can suffer indirect impacts when project construction creates potentially damaging noise and vibration, improved accessibility and vandalism or greater weather exposure. It should be noted that while NEPA requires the assessment of effects to National Register-eligible historic properties (identified through the Section 106 process), it must also consider effects to cultural resources that may not be subject to significance evaluation, such as traditional cultural properties. Assessing effects to these types of resources is typically accomplished through the consultation process.

Adverse Effects under Section 106

Under the NHPA, "effect" is defined to "mean[] [the] alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." Specifically, the NHPA is concerned with "adverse effects" to historic properties. Per 36 C.F.R. § 800.5, an adverse effect to a historic property, including cultural resources "is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feel or association." "Adverse effects can include reasonable foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

Cumulative Impacts

Unlike NEPA, which treats cumulative impacts separately for analysis purposes, cumulative impacts are undifferentiated as an aspect of the potential impacts of an undertaking of a proposed or alternative action under Section 106. The consideration of cumulative impacts reaches beyond the project area of analysis or the area of potential impacts. It is a consideration of how the impacts of a proposed or alternative action in those areas contributes or does not contribute to the degradation of a resource group or groups that is or are common to the project area of analysis and the surrounding area or vicinity.

4.7.1 CEQA Environmental Analysis

CEQA Environmental Consequences

Nine previously recorded cultural resources were relocated, and 35 new cultural resources were identified within the APE for all alternatives. Of the 44 cultural resources within the APE, 38 cultural resources would not be directly impacted by the proposed project. Of the remaining six cultural resources, between zero and six cultural resources would be impacted depending on the alternative selected. A breakdown of impacts by alternative can be found in Section 4.7.2. Table 3.7-1 lists all 44 cultural resources within the APE and describes possible impacts and NRHP status. Below are possible impacts described by alternative.

4.7.1.1 Proposed Action

The following provides an analysis of the potential impacts associated with construction and operation of the Proposed Action. The Proposed Action consists of the 1,130-acre solar site (R-1) in addition to the Transmission Lines IVW-2 and IVW2b, which connect with the northern portion of the Substation (Figure 3.7-

1). To summarize, the Proposed Action consists generally of the following components (totaling approximately 1,256 acres):

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2b—Transmission Line 120-foot corridor (32 acres)

Construction and Operational Impacts–Proposed Action

Sixteen archaeological sites are located within the Proposed Action APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Direct impacts to all cultural resources within the APE for the proposed project would be avoided through project design with the exception of CA-IMP-11502 (SR-4), CA-IMP-11473 (S-7), and CA-IMP-11474 (S-8); the BLM has recommended that these three sites are not eligible for listing on the NRHP because they have been disturbed by decades of agricultural activity and no longer retain integrity of location that qualify them for eligibility under the Criteria for Evaluation.

TABLE 4.7 -1
National Register of Historic Places Status and Potential for Impacts

Trinomial or Temporary #	NRHP Eligibility Status[1]	Potential Impacts	Location
IMP-4349[2]	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-7834	Eligible	None (site would be avoided)	All alternatives
IMP-8665[2]	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-8666[2]	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-8668[2]	Recommended eligible	Construction of an access road	Alternative 2
IMP-8699	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-8766[2]	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-8807	Recommended eligible	None (site would be avoided)	Alternative 2
IMP-10522[2]	Recommended eligible	Installation of a tower, construction of an access road	Alternative 2
CA-IMP-11471 (S-3)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11472 (S-4)	Recommended eligible	None (site would be avoided)	All alternatives
CA-IMP-11502 (SR-4)	Not eligible	Construction of solar field on agricultural field	Proposed Action, Alternatives 1 & 2

TABLE 4.7 -1
National Register of Historic Places Status and Potential for Impacts
(cont'd.)

Trinomial or Temporary #	NRHP Eligibility Status[1]	Potential Impacts	Location
CA-IMP-15501 (SC-6)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11473 (S-7)	Not eligible	Construction of solar field on agricultural field	Proposed Action, Alternatives 1 & 2
CA-IMP-11474 (S-8)	Not eligible	Construction of solar field on agricultural field	Proposed Action, Alternatives 1 & 2
CA-IMP-11475 (S-9)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-5709 (S-10)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11476 (S-11)	Recommended eligible	None (site would be avoided)	Proposed Action, Alternative 1 & 3
CA-IMP-11477 (S-12)	Recommended eligible	None (site would be avoided)	Proposed Action, Alternative 1 & 3
CA-IMP-11478 (S-13)	Recommended eligible	None (site would be avoided)	Proposed Action, Alternative 1 & 3
CA-IMP-11479 (S-14)	Recommended eligible	None (site would be avoided)	Proposed Action, Alternative 1 & 3
CA-IMP-11480 (S-15)	Recommended eligible	None (site would be avoided)	Proposed Action, Alternative 1 & 3
CA-IMP-11481 (S-16)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11443 (S-17)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11482 (S-18)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11483 (S-19)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11484 (S-20)	Recommended eligible	None (site would be avoided)	Alternative 1
CA-IMP-11485 (S-21)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-3789 (S-22)	Recommended eligible	Installation of 6 towers, construction of access roads	Alternative 2
CA-IMP-11486 (S-23)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11487 (S-24)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11488 (S-25)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11489 (S-26)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11490 (S-27)	Recommended eligible	None (site would be avoided)	Alternative 2

TABLE 4.7 -1
National Register of Historic Places Status and Potential for Impacts
(cont'd.)

Trinomial or Temporary #	NRHP Eligibility Status[1]	Potential Impacts	Location
CA-IMP-11491 (S-28)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11492 (S-29)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11493 (S-300	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11494 (S-31)	Recommended eligible	None (site would be avoided)	Alternative 2
CA-IMP-11495 (S-320	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3
CA-IMP-11496 (S-33)	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3
CA-IMP-11497 (S-34)	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3
CA-IMP-11498 (S-35)	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3
CA-IMP-11499 (S-36)	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3
CA-IMP-11500 (S-37)	Recommended eligible	None (site would be avoided)	Proposed Action & Alternative 3

[1]The BLM has recommended these sites eligible for the National Register of Historic Places (NRHP), pending concurrence from the State Historic Preservation Office. Pending further analyses or testing to confirm their eligibility with the NRHP, these sites would be treated as eligible for the NRHP,

[2]Sites CA-IMP-4349, -8665, -8666, -8668, -8766, and -10522) have been incorporated into one single site CA-IMP-3789 (S-22).
Source: RECON Environmental, Inc. 2011

The BLM has determined that the four vernacular buildings (located at 2835 Evan Hewes Hwy, 2825 A Evan Hewes Hwy, 1665 Jeffrey Road, and a building on the south corner of Liebert Road and Westside Main Canal) are not eligible for the NRHP.

The BLM adopts the prior "eligible" determinations for U.S. Highway 80 (CA-IMP-7886), the San Diego and Arizona Eastern Railroad (CA-SDI-7015), and the Westside Main Canal (CA-IMP-7834). The BLM has found that this project would not alter the characteristics or use of these properties nor adversely affect their significant qualities or values. Nevertheless, the Applicant has agreed to provide screening and natural landscaping to minimize indirect visual intrusions in the vicinity of U.S. Highway 80.

Although specific information is limited, the BLM recognizes that the Cocopah and other tribes regard Mount Signal as a significant feature on the landscape. On the basis of information available, and in consideration of the existence of the designated utility corridor, major transmission lines and substation, the modification of the landscape through hydraulic engineering and irrigated agriculture, and that the distance from the closest element of the project to the international border and northernmost toe-of-slope of Mount Signal is approximately five miles, the BLM has found that this project would not alter the existing

condition or introduce new elements to the existing setting that would adversely affect the characteristics, use, or significant values of Mount Signal to the tribes.

There is a potential for indirect effects to sites adjacent to the Proposed Action solar field construction site due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural sites outside the construction area. There are 10 sites [CA-IMP-11476 (S-11), CA-IMP-11477 (S-12), CA-IMP-11478 (S-13), CA-IMP-11479 (S-14), CA-IMP-11495 (S-32), CA-IMP-11496 (S-33), CA-IMP-11497 (S-34), CA-IMP-11498 (S-35), CA-IMP-11499 (S-36) and CA-IMP-11500 (S-37)] that are adjacent to the direct impacts; these sites may be indirectly impacted by the Proposed Action. However, Mitigation Measure CR2 would reduce potential direct and indirect project impacts so that they would not rise to the level of significance. Applicant Mitigation Measure CR2 would include fencing around the project perimeters, monitoring by qualified archaeologists, and grading in the construction area to prevent damaging water runoff. The Proposed Action has been designed to minimize indirect impacts to these 10 sites within the Proposed Action APE.

During construction and operational repair periods of the Proposed Action, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some potential to impact previously unknown archaeological subsurface resources. Mitigation Measure CR3 ensures that, pursuant to CEQA Guidelines § 15064.5(f), if unknown historic or archaeological resources are discovered, archaeological monitors would be authorized to divert construction work within 100 feet of the discovery area until appropriate investigation and mitigation can be performed. Additionally, Mitigation Measure CR4 would be implemented to further minimize potential impacts associated with subsurface excavation activities conducted during the construction and operational phases. Mitigation Measure CR4 ensures that if human remains are discovered, work would be halted and procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable. With incorporation of CR3 and CR4, project impacts resulting from accidental excavation of archaeological resources do not rise to the level of significance pursuant to CEQA.

4.7.1.2 Alternative 1-Alternative Transmission Line Corridor

As shown in Figure 3.7-1, Alternative 1-Alternative Transmission Line Corridor includes the 1,130-acre solar energy facility (R-1) as well as Transmission Line IVW-2 (similarly to the Proposed Action) and Transmission Line IVW-2a, which crosses a parcel of private land. Thus, Alternative 1-Alternative Transmission Line Corridor (totaling approximately 1,323 acres) can be generally summarized as follows:

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2a Transmission Line 300-foot corridor (99 acres)

Construction and Operational Impacts–Alternative 1-Alternative Transmission Line Corridor

There are a total of 16 cultural resources located within the Alternative 1-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. The BLM has found that direct impacts to cultural resources identified within the APE for this project would be avoided through project design with the exception of three archaeological sites. The BLM has recommended that these three archaeological sites are not eligible for listing on the NRHP because they have been disturbed by decades of agricultural activity and no longer retain integrity of location that qualify them for eligibility under the Criteria Evaluation. For purposes of Section 106, the BLM is treating the remaining cultural resources as eligible for the NRHP. Since the project has been modified and conditions imposed such that these sites would be avoided, the BLM has proposed that there would be no adverse effect on historic properties.

There is a potential for indirect effects to cultural resources adjacent to the impact areas within the Alternative 1-Alternative Transmission Line Corridor solar field construction site due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural resources outside the construction area. There are 12 cultural resources [CA-IMP-11476 (S-11), CA-IMP-11477 (S-12), CA-IMP-11478 (S-13), CA-IMP-11479 (S-14), CA-IMP-11480 (S-15), CA-IMP-11481 (S-16), CA-IMP-11443 (S-17), CA-IMP-11482 (S-18), CA-IMP-11483 (S-19), CA-IMP-11484 (S-20), CA-IMP-11497 (S-34), and CA-IMP-11501 (SC-6)] that are adjacent to the direct impacts; these sites may be indirectly impacted by Alternative 1-Alternative Transmission Line Corridor. However, implementation of Mitigation Measure CR2 would ensure that project impacts do not rise to the level of significance. Mitigation Measure CR2 would include fencing around the project perimeters, monitoring by qualified archaeologists, and grading in the construction area to prevent damaging water runoff. Alternative 1-Alternative Transmission Line Corridor has been designed to minimize indirect impacts to these four sites within the Alternative 1-Alternative Transmission Line Corridor APE.

During construction and operational repair periods of the Alternative 1-Alternative Transmission Line Corridor, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some potential to impact previously unknown archaeological subsurface resources. Mitigation Measure CR3 ensures that, pursuant to CEQA Guidelines § 15064.5(f), if unknown historic or archaeological resources are discovered, archaeological monitors would be authorized to divert construction work within 100 feet of the discovery area until appropriate investigation and mitigation can be completed.

Additionally, Mitigation Measure CR4 would be implemented to further minimize potential impacts associated with subsurface excavation activities conducted during the construction and operational phases. Mitigation Measure CR4 ensures that if human remains are discovered, work would be halted and procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable. With incorporation of Mitigation Measures CR3 and CR4, project impacts resulting

from accidental excavation of archaeological resources do not rise to the level of significance pursuant to CEQA.

4.7.1.3 Alternative 2-Alternative Transmission Line Corridor

Alternative 2-Alternative Transmission Line Corridor utilizes a route, which runs parallel to the Southwest Powerlink bisecting a private parcel before connecting to the south side of the Substation. As shown in Figure 3.7-1, the Alternative 2-Alternative Transmission Line Corridor transmission corridor (IVW-1) lies south of the Proposed Action and Alternative 1-Alternative Transmission Line Corridor corridors. Alternative 2-Alternative Transmission Line Corridor (totaling approximately 1,492 acres) can be generally summarized as follows:

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-1 Transmission Line 500-foot corridor (362 acres)

Construction and Operational Impacts—Alternative 2-Alternative Transmission Line Corridor

There are a total of 27 cultural resources located within the Alternative 2-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Mitigation Measures, Alternative 2-Alternative Transmission Line Corridor would result in direct adverse effects to four newly identified sites [CA-IMP-11473 (S-7), CA-IMP-11474 (S-8), CA-IMP-11502 (SR-4), and CA-IMP-3789 (S-22)] and two previously identified sites (CA-IMP-10522 and -8668) located within APE. The BLM has recommended that three of these archaeological sites [CA-IMP-11473 (S-7), CA-IMP-11474 (S-8), CA-IMP-11502 (SR-4)] are not eligible for listing on the NRHP because they have been disturbed by decades of agricultural activity and no longer retain integrity of location that qualify them for eligibility under the Criteria Evaluation. For purposes of Section 106, the BLM is treating the other three cultural resources as eligible for the NRHP; therefore, there are adverse effects on historic properties for Alternative 2-Alternative Transmission Line Corridor. However, Mitigation Measure CR1 has been incorporated as a project design feature and would be further implemented as a mitigation measure in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

There is a potential for indirect effects to cultural resources adjacent to the direct impact areas within the Alternative 2-Alternative Transmission Line Corridor solar field due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural resources outside the construction area. There are eight cultural resources [CA-IMP-5709 (S-10), CA-IMP-11485 (S-21), CA-IMP-11486 (S-23), CA-IMP-11489 (S-26), CA-IMP-11490 (S-27), CA-IMP-11491 (S-28), CA-IMP-11475 (S-9), and CA-IMP-11472 (S-4)] that are adjacent to the direct impacts; these sites may be indirectly impacted by Alternative 2-Alternative Transmission Line Corridor. However, Applicant Mitigation Measure CR2, which would include fencing around the project perimeters, monitoring by qualified archaeologists, and grading in the construction area to prevent damaging water runoff, would be implemented to ensure that project impacts do not rise to the level of significance.

During construction and operational repair periods of the Alternative 2-Alternative Transmission Line Corridor, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some potential to impact previously unknown archaeological subsurface resources. However, Mitigation Measure CR3 ensures that, pursuant to CEQA Guidelines § 15064.5(f), if unknown historic or archaeological resources are discovered, archaeological monitors would be authorized to divert construction work within 100 feet of the discovery area until appropriate investigation and mitigation can be completed.

During construction and operational repair period of the Alternative 2-Alternative Transmission Line Corridor, grading, excavation and trenching would be required. Mitigation Measure CR4 would ensure that the potential project impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA. Mitigation Measure CR4 ensures that if human remains are discovered, work would be halted and procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable. With incorporation of Mitigation Measures CR3 and CR4, project impacts resulting from accidental excavation of archaeological resources do not rise to the level of significance pursuant to CEQA.

4.7.1.4 Alternative 3-Reduced Solar Energy Facility Site

Alternative 3-Reduced Solar Energy Facility Site is similar to the Proposed Action in that it utilizes the Transmission Lines IVW-2 and IVW2b. However, for Alternative 3-Reduced Solar Energy Facility Site, the solar energy facility itself (R-1) would be reduced by 7 acres to 1,123 acres. Thus, Alternative 3-Reduced Solar Energy Facility Site (totaling approximately 1,249 acres) can be summarized as follows:

- R-1—IV West Reduced Solar Energy Facility (1,123 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2b—Transmission Line 120-foot corridor (32 acres)

Construction and Operational Impacts—Alternative 3-Reduced Solar Energy Facility Site

Alternative 3-Reduced Solar Energy Facility Site is similar to the Proposed Action and differs only in the reduced solar energy facility thereby avoiding potential impacts to three newly identified sites. There are a total of 13 cultural resources located within the Alternative 3-Reduced Solar Energy Facility Site APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. The BLM has found that all of the cultural resources identified within the APE for this project would be avoided through project design with the exception of three archaeological sites. The BLM has proposed that these three archaeological sites are not eligible for listing on the NRHP because the sites have been disturbed by decades of agricultural activity and no longer retain integrity of location. For purposes of Section 106, the BLM is treating the remaining cultural resources as eligible for the NRHP. Since the project

has been modified and conditions imposed such that these sites would be avoided, the BLM has proposed that there would be no adverse effect on historic properties.

Similar to the Proposed Action, there is a potential for indirect effects to cultural resources adjacent to the Alternative 3-Reduced Solar Energy Facility Site APE due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural resources outside the construction area. The same 10 cultural resources as for the Proposed Action [CA-IMP-11476 (S-11), CA-IMP-11477 (S-12), CA-IMP-11478 (S-13), CA-IMP-11479 (S-14), CA-IMP-11495 (S-32), CA-IMP-11496 (S-33), CA-IMP-11497 (S-34), CA-IMP-11498 (S-35), CA-IMP-11499 (S-36) and CA-IMP-11500 (S-37)], that are adjacent to the direct impacts, may be indirectly impacted by Alternative 3-Reduced Solar Energy Facility Site, without Mitigation Measures. However, Implementation of Mitigation Measure CR2 was developed to ensure that project impacts do not rise to the level of significance under CEQA. Alternative 3-Reduced Solar Energy Facility Site would avoid the remaining three sites within the Proposed Action APE.

During construction and operational repair periods of the Alternative 3-Reduced Solar Energy Facility Site, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some the potential to impact previously unknown archaeological subsurface resources. Implementation of Mitigation Measure CR3 ensures that, pursuant to CEQA Guidelines § 15064.5(f), if unknown historic or archaeological resources are discovered, archaeological monitors would be authorized to divert construction work within 100 feet of the discovery area until appropriate investigation and mitigation can be performed.

Additionally, Mitigation Measure CR4 would be implemented to further minimize potential impacts associated with subsurface excavation activities conducted during the construction and operational phases. Mitigation Measure CR4 ensures that if human remains are discovered, work would be halted and procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable. With incorporation of Mitigation Measures CR3 and CR4, project impacts resulting from accidental excavation of archaeological resources do not rise to the level of significance pursuant to CEQA.

4.7.1.5 Alternative 4–No Action/No Project Alternative

Under the Alternative 4-No Action/No Project Alternative the IV West Solar Energy Facility would not be approved and would not be used for solar power generation. The solar energy facility (R-1) would remain as fallow agricultural land, and none of the transmission line corridors would be utilized. No cultural resources would be impacted under the Alternative 4-No Action/No Project Alternative, and no mitigation would be required.

4.7.1.6 CEQA Impact Summary

Table 3.7-1 and Table 4.7-1 summarize all 44 cultural resources found within the APE, of which nine were previously discovered and 35 were new. The BLM has found that all of the cultural resources identified within the APE for the project would be avoided through project design with the exception of three archaeological sites for all alternatives and three additional sites for Alternative 2-Alternative Transmission Line Corridor. The BLM has proposed that three of these archaeological sites are not eligible for listing on the NRHP or CRHR because the sites have been disturbed by decades of agricultural activity and no longer retain integrity of location. For purposes of Section 106, the BLM is treating the remaining cultural resources, including those that are not being avoided by Alternative 2-Alternative Transmission Line Corridor, as eligible for the NRHP. Since the project has been modified and conditions imposed such that these sites would be avoided, the BLM has proposed that there would be no effect on historic properties for the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site. The BLM submitted this determination to the SHPO for concurrence, but a response has not yet been received as of the Final Draft for this EIR/EA. With respect to Alternative 2-Alternative Transmission Line Corridor, BLM has determined that there would be adverse effects to those historic properties that have not yet been evaluated, and are being treated as potentially eligible for NRHP and CRHR. As noted above, if this alternative were selected, the BLM would enter into consultation with the SHPO, ACHP, Tribes, and any other interested parties to develop a MOA.

4.7.2 NEPA Environmental Assessment

4.7.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

As discussed above, the Proposed Action consists of the 1,130-acre solar site (R-1) in addition to the Transmission Lines IVW-2 and IVW2b, which connect with the northern portion of the Imperial Valley Substation (Figure 3.7-1). Thus, the Proposed Action (totaling approximately 1,256 acres) can be generally summarized as follows:

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2b Transmission Line 120-foot corridor (32 acres)

Sixteen cultural resources are located within the Proposed Action APE and are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. All of the cultural resources within the APE for this project would be avoided through project design with the exception of CA-IMP-11502 (SR-4), CA-IMP-11473 (S-7), and CA-IMP-11474 (S-8). The BLM has proposed that these three archaeological sites are not eligible for listing on the NRHP because the sites have been disturbed by agricultural activities and no longer retain integrity of location. The BLM has sent a concurrence letter to SHPO and has not yet received a response.

There is a potential for indirect effects to sites adjacent to the construction zone due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural sites outside the construction area. There are 10 sites [CA-IMP-11476 (S-11), CA-IMP-11477 (S-12), CA-IMP-11478 (S-13), CA-IMP-11479 (S-14), CA-IMP-11495 (S-32), CA-IMP-11496 (S-33), CA-IMP-11497 (S-34), CA-IMP-11498 (S-35), CA-IMP-11499 (S-36) and CA-IMP-11500 (S-37)] that are adjacent to the direct impacts; these sites may be indirectly impacted by the Proposed Action. However, implementation of Mitigation Measure CR2 would ensure that the project does not impact these sites. Mitigation Measure CR2 consists of placement of temporary fencing during the construction period which would provide a physical barrier that would prevent indirect impacts from occurring within the APE (see Section 4.7.4.2 for details). The Proposed Action has been designed to avoid the remaining 10 sites within the Proposed Action APE.

During construction and operational repair periods of the Proposed Action, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some potential to impact previously unknown archaeological subsurface resources. However, as discussed above in Section 4.7.1.1, implementation of Mitigation Measure CR3 would ensure that construction of the project does not adversely impact previously unknown resources. Mitigation Measure CR3 would require that archaeological monitors be authorized to temporarily divert construction upon discovery of an unknown archaeological resource in order to determine how to avoid or best mitigate the resource (See Section 4.7.4.2 for mitigation measure details).

During construction and operational repair period of the Proposed Action, grading, excavation and trenching would be required. Implementation of Mitigation Measure CR4 would ensure that construction of the project does not adversely impact previously unknown human remains (see Section 4.7.4.2 for mitigation measure details).

B. Alternative 1-Alternative Transmission Line Corridor

Alternative 1-Alternative Transmission Line Corridor includes the 1,130-acre solar energy facility (R-1) as well as Transmission Line IVW-2 (similarly to the Proposed Action) and Transmission Line IVW-2a, which crosses a parcel of private land. Thus, Alternative 1-Alternative Transmission Line Corridor (totaling approximately 1,323 acres) can be generally summarized as follows:

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2a Transmission Line 300-foot corridor (99 acres)

Similar to the Proposed Action, there are a total of 16 cultural resources located within the Alternative 1-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. The BLM has found that all of the cultural resources

identified within the APE for this project would be avoided through project design with the exception of three archaeological sites. The BLM has proposed that these three archaeological sites are not eligible for listing on the NRHP because the sites have been disturbed by agricultural activity and no longer retain integrity of location.

There is a potential for indirect effects to cultural resources adjacent to the impact areas within the Alternative 1-Alternative Transmission Line Corridor APE due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural sites outside the construction area. There are 12 cultural resources [CA-IMP-11476 (S-11), CA-IMP-11477 (S-12), CA-IMP-11478 (S-13), CA-IMP-11479 (S-14), CA-IMP-11480 (S-15), CA-IMP-11481 (S-16), CA-IMP-11443 (S-17), CA-IMP-11482 (S-18), CA-IMP-11483 (S-19), CA-IMP-1184 (S-20), CA-IMP-11497 (S-34) and CA-IMP-11501 (SC-6)] that are adjacent to the direct impacts; these sites may be indirectly impacted by the Alternative 1-Alternative Transmission Line Corridor. However, implementation of Mitigation Measure CR2 would ensure that the project does not impact these sites. Mitigation Measure CR2 consists of placement of temporary fencing during the construction period which would provide a physical barrier that would prevent indirect project impacts from occurring within the APE (see Section 4.7.4.2 for mitigation measure details). The Alternative 1-Alternative Transmission Line Corridor has been designed to avoid the remaining four sites within the Alternative 1-Alternative Transmission Line Corridor APE.

During construction and operational repair periods of the Alternative 1-Alternative Transmission Line Corridor, grading, excavation, and trenching would be required, to install or repair buried utilities or other buried infrastructure, as well as construction and repair of the solar fields, transmission lines and accessories. Subsurface excavation activities always have some potential to impact previously unknown archaeological subsurface resources. However, implementation of Mitigation Measure CR3 would ensure that construction of the project does not adversely impact previously unknown resources. Mitigation Measure CR3 would require that archaeological monitors be authorized to temporarily divert construction upon discovery of an unknown archaeological resource in order to determine how to avoid or best mitigate the resource (see Section 4.7.4.2 for mitigation measure details).

During construction and operational repair period of the Alternative 1-Alternative Transmission Line Corridor, grading, excavation and trenching would be required. Mitigation Measure CR4 would ensure that construction of the project does not adversely impact previously unknown human remains.

C. Alternative 2-Alternative Transmission Line Corridor

Alternative 2-Alternative Transmission Line Corridor utilizes a route, which runs parallel to the Southwest Powerlink bisecting a private parcel before connecting to the south side of the Substation. The Alternative 2-Alternative Transmission Line Corridor transmission corridor (IVW-1) lies south of the Proposed Action and Alternative 1-Alternative Transmission Line Corridor corridors. Alternative 2-Alternative Transmission Line Corridor APE consists generally of the following components (totaling approximately 1,492 acres):

- R-1—IV West Solar Energy Facility (1,130 acres)
- IVW-1 Transmission Line 500-foot corridor (362 acres)

There are a total of 27 cultural resources located within the Alternative 2-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, Alternative 2-Alternative Transmission Line Corridor would result in direct adverse effects to four newly identified sites [CA-IMP-11473 (S-7), CA-IMP-11474 (S-8), CA-IMP-11502 (SR-4), and CA-IMP-3789 (S-22)] and two previously identified sites (CA-IMP-10522 and -8668) located within APE. The implementation of Mitigation Measure CR1 and the development of an MOA would ensure that the project does not adversely impact these resources.

Similar to the Proposed Action, there is a potential for indirect effects to eight cultural resources adjacent to the impact areas within the Alternative 2-Alternative Transmission Line Corridor APE due to increased traffic during construction. However, Mitigation Measure CR2 would be implemented to ensure that the project does not impact these sites. Mitigation Measure CR2 consists of placement of temporary fencing during the construction period which would provide a physical barrier that would prevent indirect project impacts from occurring within the APE (see Section 4.7.4.2 for details).

Similar to the Proposed Action, during construction and operational repair period of the Alternative 2-Alternative Transmission Line Corridor, grading, excavation and trenching would be required. Mitigation Measure CR3 would be implemented in order to ensure that construction of the project does not adversely impact previously unknown resources and Mitigation Measure CR4 would ensure that construction of the project does not adversely impact previously unknown human remains. Mitigation Measure CR3 would require that archaeological monitors be authorized to temporarily divert construction upon discovery of an unknown archaeological resource in order to determine how to avoid or best mitigate the resource (see Section 4.7.4.2 for details).

D. Alternative 3-Reduced Solar Energy Facility Site

Alternative 3-Reduced Solar Energy Facility Site is similar to the Proposed Action in that it utilizes the Transmission Lines IVW-2 and IVW2b. However, for Alternative 3-Reduced Solar Energy Facility Site, the solar energy facility itself (R-1) would be reduced by 7 acres to 1,123 acres. Thus, Alternative 3-Reduced Solar Energy Facility Site (totaling approximately 1,249 acres) can be summarized as follows:

- R-1—IV West Reduced Solar Energy Facility (1,123 acres)
- IVW-2—Transmission Line 300-foot corridor (55 acres)
- IVW-2—Connection area northwest of existing Substation (39 acres)
- IVW-2b—Transmission Line 120-foot corridor (32 acres)

Alternative 3-Reduced Solar Energy Facility Site is similar to the Proposed Action and differs only in the reduced solar energy facility thereby avoiding potential impacts to three newly identified sites. There are a total of 13 cultural resources located within the Alternative 3-Reduced Solar Energy Facility Site APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. These impacts are the same as described above and the proposed mitigation measures would reduce the likelihood of impacts as mentioned above.

Similar to the Proposed Action, there is a potential for indirect effects to cultural resources adjacent to the impact areas within the Alternative 3-Reduced Solar Energy Facility Site APE due to increased traffic during construction. These impacts are the same as described above and the proposed mitigation measures would reduce the likelihood of impacts as mentioned above. Alternative 3-Reduced Solar Energy Facility Site would avoid the remaining three sites within the Proposed Action APE.

Similar to the Proposed Action, during construction and operational repair period of the Alternative 3-Reduced Solar Energy Facility Site, grading, excavation and trenching would be required. Mitigation Measure CR3 would be implemented in order to ensure that construction of the project does not adversely impact previously unknown resources and Mitigation Measure CR4 would ensure that construction of the project does not adversely impact previously unknown human remains.

E. Alternative 4–No Action/No Project Alternative

Under the Alternative 4-No Action/No Project Alternative the IV West Solar Energy Facility would not be approved and would not be used for solar power generation. The solar energy facility (R-1) would remain as fallow agricultural land, and none of the transmission line corridors would be utilized. No cultural resources would be impacted under the Alternative 4-No Action/No Project Alternative, and no mitigation would be required.

4.7.2.2 NEPA/NHPA Environmental Consequences/Conclusions

The BLM has found that all of the cultural resources identified within the APE for this project would be avoided through project design with the exception of three archaeological sites [CA-IMP-11502 (SR-4), CA-IMP-11473 (S-7), and CA-IMP-11474 (S-8)] for all alternatives and three additional archaeological sites [CA-IMP-8668, CA-IMP-10522, and CA-IMP-3789 (S-22)] for Alternative 2. The BLM has proposed that the three archaeological sites in all the alternatives are not eligible for listing on the NRHP because the sites are located in highly disturbed agricultural fields and no longer retain integrity or other characteristics that would allow them to be eligible for listing. BLM has sent a concurrence letter to SHPO and is waiting for a response. For purposes of Section 106, the BLM is treating the remaining cultural resources including the three additional sites in Alternative 2-Alternative Transmission Line Corridor as eligible for the NRHP. Since the project has been modified and conditions imposed such that these sites would be avoided, the BLM has proposed that there would be no direct adverse effect on historic properties for the Proposed Action and Alternative 1-Alternative Transmission Line Corridor and Alternative 3-Reduced Solar Energy Facility Site. Therefore, a Memorandum of Agreement (MOA) is not required for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor and Alternative 3-Reduced Solar Energy Facility Site. With respect to Alternative 2-Alternative Transmission Line Corridor, BLM has determined that there would be adverse effects to those historic properties that have not yet been evaluated, and are being treated as potentially eligible for NRHP and CRHR. If this alternative is selected, BLM would enter formal consultation with the SHPO, ACHP, Tribes, and any interested parties to develop a MOA. Pursuant to Section 106 of NHPA, determination of adverse effects to historic properties and resolution of effect cannot be made without consultation, and the Decision Record must include the MOA.

4.7.3 Project Conditions

The BLM proposes to avoid effects to the significant values of archaeological resources in the APE for direct impacts by imposing the following conditions on the undertaking:

BLM would implement the following management or protective measures:

1. Archaeological sites that can be protected from direct impacts, but are within 50 feet, including buffer areas, of proposed construction activities would be identified and labeled as Environmentally Sensitive Areas (ESAs). This includes archaeological sites determined eligible for inclusion in the NRHP and sites that have not been formally evaluated, but are being treated as eligible and avoided for project management purposes.
2. The ESAs would be designated by marking the boundaries of sites with appropriate buffer zones (generally a buffer of 20 feet beyond the outer limits of the site extent, as demonstrated by surface and/or subsurface indications) using temporary fencing or other easily recognizable boundary defining materials.
    (a) These areas would be shown on the engineering plans for the project as off-limits to construction activities.
3. Once established, an ESA would define areas where construction can occur while preventing construction activities and damage to archaeological resources within the designated ESA.
4. ESAs would be identified and established by a qualified archaeologist prior to initiation of ground disturbing activities and would be maintained for the duration of the work effort in the ESA vicinity.
5. Qualified archaeologist(s) would be on site during construction to observe grading, trenching or other excavation for any facilities, roads or other project components related to the undertaking near ESAs and in other areas determined appropriate for full-time monitoring.
6. To facilitate continued tribal consultation for this undertaking, in consultation with Indian tribes and the BLM, the Applicant has agreed to develop and implement a tribal monitoring program to afford representatives designated by Indian tribes (tribal monitoring consultants) the opportunity to monitor and be on site during construction to observe grading, trenching or other excavation for facilities, roads or other project components related to the undertaking near ESAs and in other areas determined appropriate for monitoring.
7. The BLM would implement procedures for post-review discovery and unanticipated effects as described in the document, Procedures for Post-Review Discoveries or Unanticipated Effects.

8. The BLM would require the Applicant to develop and implement a Long Term Management Plan (LTMP) for the post-construction monitoring and condition assessment of sites in the APE which could be subject to project operations and maintenance activities.
9. If BLM selects Alternative 2-Alternative Transmission Line Corridor, the adverse effect would be resolved through the development of a MOA prior to the record of decision. This would be completed in consultation with the SHPO, ACHP, Tribes, and interested parties.

4.7.4 Mitigation Measures and Residual Impacts

4.7.4.1 Applicable CEQA Guidelines Addressing Mitigation Measures

Applicant Mitigation Measures (a.k.a. Project Design Features) are encouraged in CEQA to simplify the CEQA review process and enhance the prospects for approval. Project sponsors often anticipate and respond to key environmental issues when designing a project. As a result, the Proposed Action and Alternatives considered in this EIR/EA may incorporate applicant mitigation measures / project design features intended to achieve an optimal balance between project objectives and environmental protection. Such an approach implements CEQA's policy of encouraging incorporation of environmental considerations in "project conceptualization, design, and planning." 14 Cal Code Regs §15004 (b)(3). The applicant incorporated project design features by relocating project components to avoid cultural resources, thus minimizing impacts.

The applicant followed CEQA Guidelines § 15126.4(b) requirements for mitigation measures related to impacts on historical resources. CEQA Guidelines CEQA Guidelines § 15126.4(b) provides:

Section 15126.4(b)(3) -- Public agencies should, whenever feasible, seek to avoid damaging effects on an historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impact to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in Place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on site.
4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information prior

to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

(D) Data recovery shall not be required for an historical resource if the Lead Agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Information Center.

Furthermore, CEQA Guidelines § 15064.5(f) recognizes that it is never possible to know all the potential environmental impacts of a project on historic and archaeological resources at the time of project approval and therefore requires "a lead agency to make provisions for historical or unique archaeological resources accidentally discovered during construction." These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.

Additionally, CEQA Guidelines § 15064.5(b)(4) requires "A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of a historic resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions."

Finally, CEQA Guidelines 15064.5(b)(3) states that "Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource. The Department of Interior explains that "The *Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* are intended to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to treatment. As noted, while the Treatment Standards are designed to be applied to all historic resource types included in the National Register of Historic Places--buildings, sites, structures, districts, and objects--the Guidelines apply to specific resource types; in this case, buildings." http://www.nps.gov/history/hps/tps/standguide/overview/using_standguide.htm. Furthermore, the Secretary of Interior explains that the *Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation* contain archaeological documentation standards and that "[a]rcheological documentation may be undertaken as an aid to various treatment activities, including research, interpretation, reconstruction, stabilization and data recovery when mitigating archaeological losses resulting from construction." http://www.nps.gov/history/local-law/arch_stnds_7.htm. As such, the

combination of consistency with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and *Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation* provide substantial evidence of achieving a performance standard that prevents a project's potentially signicant impacts to cultural resources from rising to the level of significance under CEQA.

4.7.4.2 Proposed Action- Mitigation Measures

The Mitigation Measures contained herein shall be applied in order to ensure that the Proposed Action and Alternatives' cultural impacts do not rise to a level of significance under CEQA.

Prior to the start of grading for the Imperial Solar Energy Center West project or grading related to operational repairs; mitigation measures shall be implemented as follows:

CR1 For those sites considered eligible for listing on the NRHP that would be directly impacted due to the construction of access roads, towers, pull sites, or solar fields, data recovery and construction monitoring programs are required. The data recovery program for such sites shall make provisions for adequately recovering the scientifically consequential information prior to any construction excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Best management practices consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation* shall be required including construction monitoring:

a) Preservation in Place: Avoidance of the resources through project redesign in a manner that is technically possible, operationally possible, does not cause a new significant environmental impact or increase the severity of a significant environmental impact, and does not cause the loss of more than 1 MW of production. The Applicant has implemented this as a design feature by redesigning the transmission lines of the project to avoid cultural resources with the exception of three cultural resources.

b) Minimizing impacts by limiting the degree of impacts or reducing the impact through best management practices identified in a data recovery, excavation and/or construction monitoring plan. The content of this plan must be consistent with *the Secretary of Interior's Standards for the Treatment of Historic Properties and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* and include a description of areas to be monitored during construction, a discovery plan that will address unanticipated cultural resources, and provisions for the education of construction workers.

CR2 There are additional sites, which may be impacted due to their proximity to construction areas (see Section 4.7.1 above). Because these sites are located near areas being impacted by project construction, archaeological monitoring and temporary fencing around their perimeters would be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel. Monitoring shall be conducted by qualified archaeologists. A qualified archaeological monitor shall hold a current BLM Cultural Use Permit

(CUP). The person listed as the Permitee (Permit item 7) is the Principal Investigator and is responsible for all actions under the permit, for meeting all permit terms and conditions, and for performance of all other personnel. In addition, grading within the construction area shall be performed in a manner that incorporates sheet flow and water runoff diversion techniques to prevent surface water from damaging off-site cultural sites.

CR3 Pursuant to CEQA Guidelines § 15064.5(f), in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors would be authorized to temporarily divert construction work within 100 feet of the area of discovery until the significance and the appropriate mitigation measures are determined by the BLM and a Registered Professional Archaeologist familiar with the resources of the region. The Applicant shall notify the County within 24 hours. The Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.

CR4 If human remains are discovered, work would be halted in that area, and the procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable.

4.7.4.3 Alternative 1-Alternative Transmission Line Corridor- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR1 through CR4 identified above for the Proposed Action would also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.7.4.4 Alternative 2-Alternative Transmission Line Corridor- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR1 through CR4 identified above for the Proposed Action and the development of an MOA would also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.7.4.5 Alternative 3-Reduced Solar Energy Facility Site- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR1 through CR4 identified above for the Proposed Action would also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.7.4.6 Alternative 4-No Action/No Project Alternative- Applicant Mitigation Measures/Project Design Features

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on cultural resources from the Alternative 4-No Action/No Project Alternative and no mitigation would be required.

4.7.4.7 Impact Analysis of Applicant Mitigation Measures

Impact Analysis of Mitigation Measure CR1:

Implementation of Mitigation Measure CR1 may result in a direct or indirect impact if by relocating a project component to avoid a resource another cultural resource were impacted based on the newly located component. This impact would be reduced to less than significant because before the new location would be approved, a formal testing and evaluation program would be conducted and prepared for those resources, which would be impacted. The evaluation program would be consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation*. If the newly impacted resource is determined to be eligible for listing on the NRHP, CRHR, and/or local register, best management practices consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation* would be required. The data recovery and construction monitoring program for those cultural resources considered eligible for listing on the NRHP with direct impacts would reduce the impacts to a level below CEQA significance and through the MOA would resolve the adverse effects.

Impact Analysis of Mitigation Measure CR2:

Implementation of Mitigation Measure CR2 would not result in a direct or indirect impact because temporary fencing around the perimeters of the cultural resources located within the project impact areas and archaeological monitoring would be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel and the fencing itself would not increase ground disturbance or impacts to other resources. In addition, grading within the construction area shall be performed in a manner that incorporates sheet flow and water runoff diversion techniques to prevent surface water from damaging off-site cultural sites.

Impact Analysis of Mitigation Measure CR3:

Implementation of Mitigation Measure CR3 would not result in a direct or indirect impact because, pursuant to CEQA Guidelines § 15064.5(f), in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors would be authorized to temporarily divert construction work within 100 feet of the area of discovery until the significance and the appropriate mitigation measures are determined by a Registered Professional Archaeologist familiar with the resources of the region.

Impact Analysis of Mitigation Measure CR4:

Implementation of Mitigation Measure CR4 would not result in a direct or indirect impact because if human remains are discovered, work would be halted in that area, and the procedures set forth in the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 and the Native American Graves Protection and Repatriation Act (NAGPRA) shall be followed, as applicable.

4.7.4.8 Residual Impact Analysis of Mitigation Measures

Potential residual impacts of mitigation measures are described above in Section 4.7.4.7. No additional residual impacts are anticipated.

4.7.4.9 Impact after Applicant Mitigation Measures

With the required implementation of mitigation measures CR1 and CR2 assures that such project impacts and potential project impacts would not rise to the level of significance under the CEQA thresholds. A level of uncertainty always exists in evaluating a project's impacts on cultural resources because they could be buried and accidental discovery of either these cultural resources or human remains can occur during construction grading and operational repairs. These impacts were also deemed potentially significant for purposes of analyzing the project under the worst-case scenario, but the required implementation of Mitigation Measures CR3 and CR4 assures that such potential project impacts would not rise to the level of significance under the CEQA thresholds.

Therefore, with implementation of Mitigation Measures CR1a through CR4 as described above, no significant impacts to cultural resources would occur with respect to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative for purposes of CEQA. No significant impacts to cultural resources would occur for Alternative 2-Alternative Transmission Line Corridor with the implementation of CR1 (including the data recovery program) though CR4 as described above.

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4.8 Noise

The noise analysis provided in this section is summarized from the *Construction Acoustical Site Assessment Imperial Solar Energy Center West* prepared by Investigative Science and Engineering, Inc. (ISE) (August 20, 2010). This document is provided on the attached CD of Technical Appendices as Appendix F of this EIR/EA.

CEQA Significance Criteria

For the purpose of this EIR/EA, a significant Noise impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would result in:

Indicator 1: *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor);*

Indicator 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;*

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor;*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels;*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

NEPA Methodology

Impacts under NEPA are defined in terms of context and intensity. Context means that the significance of an action must be analyzed in several contexts, such as society, the affected region, affected interests, and locale. Intensity refers to the severity of impact, and includes a variety of factors to be considered (40 CFR §1508.27).

Noise impacts are evaluated using Imperial County's General Plan Noise Element to identify sensitive receptors as areas of habitation and may also be non-human species (i.e., sensitive bird species). The closest human sensitive receptors are residences. The nearest sensitive receptor (areas of habitation) that could be impacted by construction noise due to the Proposed Action is the Imperial Lakes planned water skiing community located approximately 0.5 miles north of project site. This development consists of two water ski lakes surrounded by mobile homes. Burrowing owls and other sensitive bird species were observed on the solar field site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor).

The indicators mentioned above provide for a context in which to relate the impacts of the Proposed Action to the existing environment and thereby describe the intensity. The local jurisdiction's information is included to provide for a classification of sensitive receptors, even though the noise generated by the project during construction and operations may impact the casual user. The long-term noise impacts will be discussed in relation to the operation of the facility and any impacts from maintenance.

In addition, evaluation of the Proposed Action's impacts on Noise issues for NEPA purposes was framed using the above mentioned CEQA indicators, because those indicators capture the range of potential Noise impacts that could occur as a result of the Proposed Action and Alternatives.

4.8.1 CEQA Environmental Analysis

Analysis of the noise issues was performed through quantitative analysis of expected noise levels, review of agency policies and regulatory requirements, and qualitative analyses for issues that did not lend themselves to quantitative evaluation. Quantitative analyses were prepared to address noise and vibration from construction equipment operations, noise from construction-related traffic, and noise from facility operations. Qualitative evaluations were prepared to address issues related to noise impacts to wildlife because of the nature of the impact. Additional details regarding impact assessment methodologies are discussed under relevant impact topics.

The region of interest for noise and vibration issues is typically very localized. Airborne noise dissipates fairly rapidly with increasing distance from the noise source. The distances involved depend primarily on the intensity of the noise generated by the source, and partly on weather conditions such as wind speed and direction, the height and strength of temperature inversions, and the height of cloud cover. Sound is detectable somewhat further downwind than upwind of a noise source. Temperature inversions and cloud cover can reflect or refract sound that is radiated upwards; this effect can increase noise levels at locations that receive the reflected or refracted sound. Such reflection and refraction effects are important primarily

for high intensity sounds. For noise sources such as construction activity and vehicle traffic, the region of influence is typically less than ¼ mile from the noise source.

Ground-borne vibrations typically dissipate rapidly with increasing distance from the vibration source. The distances involved depend primarily on the intensity of the vibrations generated by the source, and partly on soil and geologic conditions. Detectable vibrations will travel the greatest distance through solid rock and the least distance through loose, unconsolidated soils or saturated soils. For vibration sources such as construction activity and vehicle traffic, the region of influence is typically less than 1,000 feet from the vibration source.

4.8.1.1 Proposed Action

A. Construction Noise

Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor).

During the construction phases of the solar energy facility, transmission line corridor and the access road, short-term noise will be generally associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The degree of impacts will be dictated by the amount of construction equipment used, the density of heavy equipment, the proximity to a noise sensitive land use area, and the duration of the grading process.

General grading and construction activity noise levels for various pieces of equipment are shown in Figure 4.8-1. Noise levels emanating from a single source typically fall off at a rate of 6 dB for every doubling of distance from the source. At a distance of 200 feet, the noise levels shown in Figure 4.8-1 are approximately 12 dBA less; at a distance of 1,000 feet, the levels are about 25dBA less. The loudest equipment expected to operate would be equipment used during the grading process.

Table 4.8-1 also provides a worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time. The resulting average daily construction noise level would vary between 43 and 48 dBA Leq-h or less at any sensitive receptor area. It should be noted that the Noise Element of the Imperial County General Plan identifies sensitive receptors as areas of habitation and may also be non-human species (i.e., sensitive bird species). This development consists of two water ski lakes surrounded by mobile homes. Based on the *Construction Acoustical Site Assessment,* the nearest sensitive residential receptor area would be, at a minimum, 5,000 feet from any construction activity centroid for the proposed project. The nearest sensitive receptor (areas of habitation) that could be impacted by construction noise due to the Proposed Action is the Imperial Lakes planned water skiing community located approximately 0.5 miles north of the edge of the project site boundary (not the construction activity centroid).

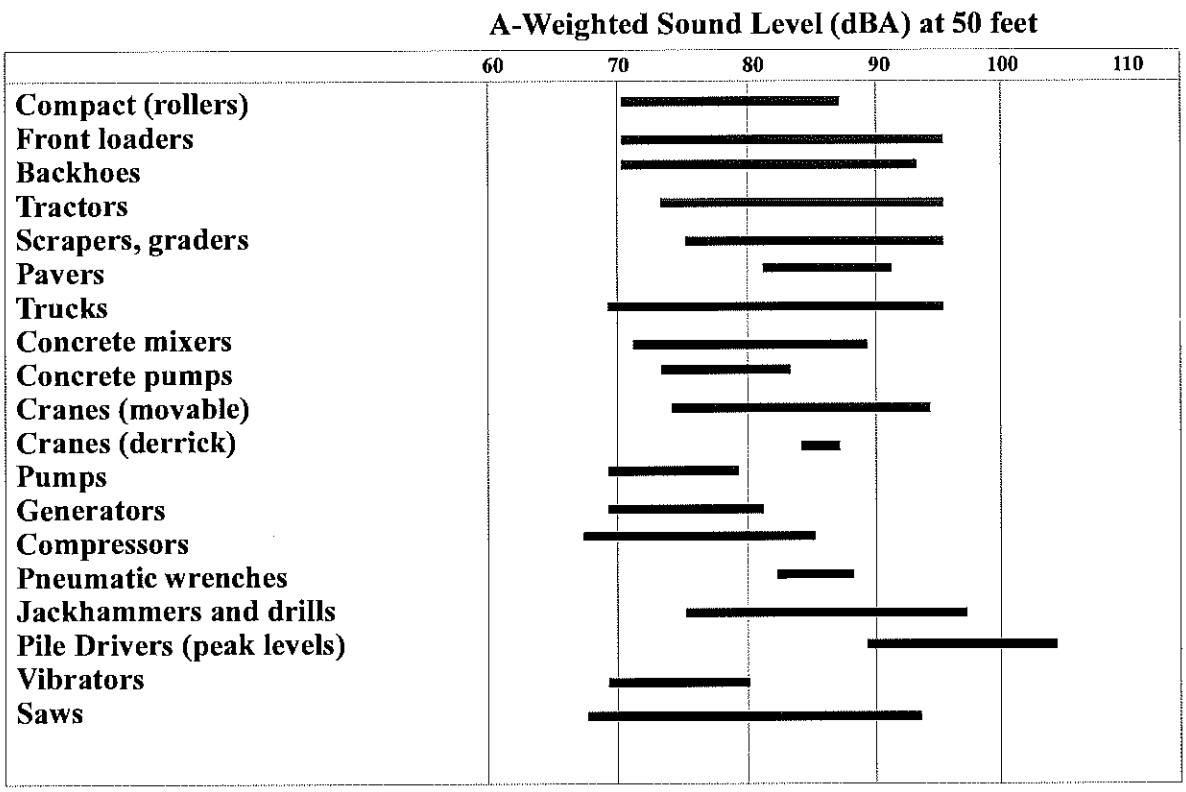
TABLE 4.8-1
Worst Case Construction Equipment Operating Scenario

Construction Phase	Equipment Type	Qty. Used	Duty Cycle (Hrs./day)	Source Level @50 Feet (dBA)	Cumulative Effect @ 50 Feet (dBA Leq_{12h})
Remedial Grading/Clearing/Hauling					
	Dozer-D8 Cat	1	8	75	84.0
	Loader	1	8	70	79.0
	Water Truck	2	4	65	74.0
	Dump/Haul Trucks	4	4	70	82.0
	Scraper	1	4	75	81.0
				Worst-Case Aggregate Sum @ 50 Feet	*88.1*
				Sum @ Closest Receptor >5,000 Feet Distant	*48.1*
Underground Utility/Transmission Line Construction					
	Track Backhoe	1	6	70	77.8
	Loader/Drill	1	6	70	77.8
	Water Truck	2	4	65	74.0
	Concrete Truck	8	0.5	70	76.0
	Dump/Haul Trucks	2	4	70	79.0
				Worst-Case Aggregate Sum @ 50 Feet	*84.2*
				Sum @ Closest Receptor >5,000 Feet Distant	*44.2*
Solar Panel System Installation/Tower Placement Activities					
	Skid Steer Cat	1	6	70	77.8
	Hydraulic Crane	2	4	70	79.0
	Dump/Haul Trucks	4	0.5	70	73.0
	Paver	1	8	65	74.0
	Roller	1	8	65	74.0
				Worst-Case Aggregate Sum @ 50 Feet	*83.2*
				Sum @ Closest Receptor >5,000 Feet Distant	*43.2*

Source: ISE, 2010.

However, noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed disturbing to potential adjacent sensitive receptors per the requirements by the County of Imperial. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts. The area of the Proposed Action is otherwise not located in proximity of other types of sensitive land uses, including residential structures.

The most effective method to control construction noise is through the institution of local control of construction hours. Construction activities would adhere to the construction time periods of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays by ordinance. Therefore, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario) and would not substantially increase existing noise levels, noise generated during construction activities is not considered significant under CEQA.



Source: "Handbook of Noise Control," by Cyril Harris, 1979.

SOURCE: ISE, Inc., 2008

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BRG CONSULTING, INC.

Imperial Solar Energy Center West

Typical Construction Noise Levels at 50 Feet

FIGURE 4.8-1

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 8\Figure 4.8-1 Typ Construction Noise.ai

Groundborne Vibration

Indicator 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

Groundborne vibration is measured in terms of the velocity of the vibration oscillations. As with noise, a logarithmic decibel scale (VdB) is used to quantify vibration intensity. Groundborne vibration is usually perceived as annoying to building occupants when it exceeds 80 Vdb (for fewer than 70 vibration events per day). The degree of annoyance depends on the type of land use, individual sensitivity to vibration, and the frequency of vibration events. Typically, vibration levels must exceed 100 Vdb before building damage.

The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet (County of Imperial, 2010). The nearest sensitive receptor, the Imperial Lakes development, is located approximately 0.5 miles (2,640 feet) north of the project site. However, at this distance, groundborne vibration would be less than 80 Vdb because the further distance from the site the approximate vibration levels are anticipated decrease. Typical construction activities associated with development of the Proposed Action would not result in perceptible, let alone excessive, groundborne vibration or groundborne noise levels. Therefore, the Proposed Action would not generate excessive grounborne vibration or groundborne noise levels. The issue of groundborne vibration is considered less than significant under CEQA.

Burrowing owls and other sensitive bird species were observed on the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species.

B. Short-Term Off-Site Roadway Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

The results of the effects of construction-related traffic noise increases on the various servicing roadway segments associated with the Proposed Action site under the: 1) near-term 2012 cumulative conditions; and, 2) near-term 2012 cumulative plus project conditions are presented on Table 4.8-2 and Table 4.8-3. A summary of the findings and potential impact areas is shown on Table 4.8-4. Note that Year 2012 plus project is effectively the existing conditions plus the project scenario as that is when construction activities are anticipated to be fully underway. The construction phase is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012. Therefore, the construction phase opening day is taken as Year 2012.

TABLE 4.8-2
Traffic Noise Conditions at Construction Start (Year 2012)

Roadway	Segment	ADT	Speed (MPH)	SPL (dBA)	CNEL Contour Distances (feet)			
					75 CNEL	70 CNEL	65 CNEL	60 CNEL
Dunaway Road	I-8 to Project Access	6,074	45	67.2	15	33	70	151
	Project Access to Evans Hewes Highway	5,090	45	66.5	14	29	63	136
Evans Hewes Highway	Dunaway Road to Drew Road	5,154	45	66.5	14	29	63	136

Notes: CNEL = Community Noise Equivalent Level.
ADT= Average Daily Trips.
SPL= Sound Pressure Level in dBA at 50-feet from the road edge.
Source: ISE, 2010.

TABLE 4.8-3
Project Traffic Noise Conditions at Construction Start (Year 2012) plus Project Construction Traffic

Roadway	Segment	ADT	Speed (MPH)	SPL (dBA)	CNEL Contour Distances (feet)			
					75 CNEL	70 CNEL	65 CNEL	60 CNEL
Dunaway Road	I-8 to Project Access	6,749	45	67.7	16	35	76	163
	Project Access to Evans Hewes Highway	5,165	45	66.5	14	29	63	136
Evans Hewes Highway	Dunaway Road to Drew Road	5,229	45	66.6	14	30	64	138

Notes: CNEL = Community Noise Equivalent Level.
ADT= Average Daily Trips.
SPL= Sound Pressure Level in dBA at 50-feet from the road edge.
Source: ISE, 2010.

TABLE 4.8-4
Project-Related Construction Traffic Noise Increases

Roadway	Segment	Traffic Increases Under…		
		Existing Conditions	2012 Near-Term Conditions (dBA)	Potential Project Impacts
Dunaway Road	I-8 to Project Access	n/a	0.5	No
	Project Access to Evans Hewes Highway	n/a	0.0	No
Evans Hewes Highway	Dunaway Road to Drew Road	n/a	0.1	No
	CEQA Screening Threshold	3.0	3.0	

Source: ISE, 2010.

For each roadway segment analyzed, the worst case average daily traffic volume (ADT) from construction-related traffic and observed/predicted speeds are shown, along with the corresponding reference noise level at 50-feet (in dBA). Additionally, the line-of-sight distance from the roadway centerline to the 60 through 75 CNEL contours are provided as an indication of the worst-case unobstructed theoretical traffic noise contour placement.

As shown in Table 4.8-4, no substantial project-related construction traffic noise increases would occur under the existing conditions Year 2010 because there would be minimal or no project traffic. In the Year 2012, an exceedance of 0.5 dBA is indicated on Dunaway Road between I-8 and the project access point. However, the exceedance is below the 3.0 dBA CEQA screening threshold. Therefore, the Proposed Action's construction traffic contribution to off-site roadway noise levels during the construction phase is not considered a significant impact under CEQA. Long-term operational noise levels are discussed below.

As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

C. Long Term Operational Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in*

Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Proposed Action's On-site Operational Noise

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. Table 4.8-5 identifies the typical sound levels for these noise sources. Based on the Table 4.8-5, noise generated during operation of transmission lines and transformers is at the quiet end of the noise spectrum. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB, and they do not exceed any noise level limits. The Proposed Action would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. This ordinance governs fixed operational noise within the proposed development area. Table 4.8-5 summarizes the relevant requirements.

TABLE 4.8-5
Typical Sound Levels for Select Noise Sources

Type of Activity	Sound Level in Decibels (dB)	Subjective Impression
Civil Defense Siren (100 feet)	140	Pain Level
Jet Takeoff (200 feet)	120	Pain Threshold
Loud Automobile Horn (3 feet)	115	Extremely Loud
Jet Takeoff (2,000 feet)	105	Very Loud
Pile Driver (50 feet)	100	Very Loud
Freight Cars (50 feet)	95	Very Loud
Heavy Truck (50 feet)	90	Very Loud
Ambulance Siren (100 feet)	90	Very Loud
Riding Inside a City Bus	83	Loud
Pneumatic Drill (50 feet)	80	Loud
Alarm Clock (2 feet)	80	Moderately Loud
Average Traffic on Street Corner	75	Moderately Loud
Freeway (100 feet)	70	Moderately Loud
Vacuum Cleaner (10 feet)	69	Moderately Loud
Conversational Speech	60	Medium
Department/Large Retail Store	60	Medium
Light Auto Traffic (100 feet)	55	Medium
Large Transformer (200 feet)	40	Quiet
Library	35	Quiet
Soft Whispering (5 feet)	30	Quiet
Transmission Line	20	Quiet
Hearing Threshold	10	Very Quiet

Source: ISE, 2010.

All onsite fixed uses within the Proposed Action would be required to meet the operational noise standards shown in Table 4.8-6 for all areas within the project site. As described above, the noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone. As such, onsite operational noise would not exceed the standards of the County of Imperial Noise Ordinance. Because the ambient noise increases caused by long-term project operations will be minor, and because the noise exposure will be within the established and relevant standards, the Proposed Action's onsite operation noise is not considered a significant impact under CEQA.

TABLE 4.8-6
Operational Noise Standards

Zone	Time	One-Hour Average Sound Level Limit (dBA)
All R-1, All R-2	7:00 am – 10:00 pm 10:00 pm - 7:00 am	50 45
R-3, R-4 and all other residential	7:00 am – 10:00 pm 10:00 pm - 7:00 am	55 50
All Commercial	7:00 am – 10:00 pm 10:00 pm - 7:00 am	60 55
Manufacturing, all other industrial including agriculture and extraction	Anytime	70
General Industrial	Anytime	75

Source: ISE, 2008.

Proposed Action's Off-site Traffic Noise Impacts

The Proposed Action is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Proposed Action is not expected to result in substantial off-site traffic-generated noise impact. Furthermore, as discussed above, the Proposed Action's construction traffic contribution (750 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Proposed Action, would not result in a significant off-site traffic noise impact under CEQA.

D. Noise Impacts on Airports

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; would the project expose people residing or working in the project area to excessive noise levels.*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

The Proposed Action project site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The proposed solar facility and new transmission lines would be located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within

the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). The portion of site that is located within the 60-65 dBA contour line is planned for the solar facility use. According to Table 4.8-7 (Table 2B of the ALUCP), proposed uses (i.e., utilities) within this contour are compatible with these noise levels. Therefore, the Proposed Action would not expose people residing or working in the project area to excessive noise level from a public airport and a less than significant impact under CEQA has been identified.

No portion of the Proposed Action is located within the vicinity of a private airstrip; therefore, no significant noise impact under CEQA associated with airport activity would result.

TABLE 4.8-7

Table 2B
Noise Compatibility Criteria

LAND USE CATEGORY	CNEL, dBA 50-55	55-60	60-65	65-70	70-75
Residential					
single family, nursing homes, mobile homes,	+	0	-	--	--
multi-family, apartments, condominiums	++	+	0	--	--
Public	+	0	-	--	--
schools, libraries, hospitals,	+	0	0	-	--
churches, auditoriums, concert halls, transportation, parking, cemeteries	++	++	++	++	0
Commercial and Industrial	++	+	0	0	-
offices, retail trade,	++	++	+	0	0
service commercial, wholesale trade, warehousing, light industrial, general manufacturing, utilities, extractive industry	++	++	++	+	+
Agricultural and Recreational	++	++	++	++	+
cropland	++	+	0	0	-
livestock breeding	++	+	+	0	-
parks, playgrounds, zoos	++	++	+	0	0
golf courses, riding stables,	++	+	+	0	-
water recreation	+	0	-	--	--
outdoor spectator sports					
amphitheaters					

LAND USE AVAILABILITY	INTERPRETATION/COMMENTS
++ Clearly Acceptable	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
+ Normally Acceptable	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
0 Marginally Acceptable	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.
- Normally Unacceptable	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
-- Clearly Unacceptable	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

4.8.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Construction Noise

Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor).

The noise generated by the construction of the Alternative 1-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 1-Alternative Transmission Line Corridor will generate short-term noise associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The loudest equipment expected to operate would be equipment used during the grading process. Based on the worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time, the average daily construction noise level would vary between 43 and 48 dBA Leq-h or less at any sensitive receptor area.

The nearest sensitive receptor (areas of habitation) that could be impacted by construction noise due to the Alternative 1-Alternative Transmission Line Corridor is the Imperial Lakes planned water skiing community located approximately 0.5 miles north of project site. This development consists of two water ski lakes surrounded by mobile homes. However, noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed disturbing to potential adjacent sensitive receptors (areas of habitation) per the requirements by the County of Imperial. It should be noted that the Noise Element of the General Plan identifies sensitive species such as bird species as sensitive receptors. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

Construction activities would adhere to the construction time periods of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sundays or holidays by ordinance. Therefore, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario), noise generated during construction activities is not considered significant under CEQA.

Groundborne Vibration

Indicator 2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet. The nearest sensitive receptor, the Imperial Lakes development, is located approximately 0.5 miles (2,640 feet) north of the project site. However, at this distance, groundborne vibration would be less than 80 Vdb. Typical construction activities associated with development of the project under Alternative 1-Alternative Transmission Line Corridor would not result in perceptible, let alone excessive, groundborne vibration or groundborne noise levels. Therefore, the issue of groundborne vibration is considered less than significant under CEQA.

Burrowing owls and other sensitive bird species were observed on the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species.

B. Short-Term Construction Off-Site Roadway Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

Similar to the Proposed Action, no project-related traffic noise increases would occur under the existing conditions Year 2010 because there would be minimal or no project traffic. In the Year 2012, an exceedance is indicated on Dunaway Road between I-8 and the project access point. However, the exceedance is below the 3.0 dBA CEQA screening threshold. Therefore, the project under Alternative 1-Alternative Transmission Line Corridor's contribution to off-site roadway noise levels during the construction phase is not considered a significant impact under CEQA.

As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

C. Long-Term Operational Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Alternative 1-Alternative Transmission Line Corridor On-site Operational Noise

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB and they do not exceed any noise level limits.

Similar to the Proposed Action, the project under Alternative 1-Alternative Transmission Line Corridor would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. The noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone. As such, onsite operational noise would not exceed the standards of the County of Imperial Noise Ordinance. Because the ambient noise increases caused by long-term project operations will be minor, and because the noise exposure will be within the established and relevant standards, the onsite operation noise generated under Alternative 1-Alternative Transmission Line Corridor is not considered a significant impact under CEQA.

Alternative 1-Alternative Transmission Line Corridor Off-site Traffic Noise Impacts

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Alternative 1-Alternative Transmission Line Corridor is not expected

to result in a substantial off-site traffic generated noise impact. Furthermore, as discussed above, the Proposed Action's construction traffic contribution (750 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Alternative 1-Alternative Transmission Line Corridor would not result in a significant off-site traffic noise impact under CEQA.

D. Noise Impacts on Airports

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; would the project expose people residing or working in the project area to excessive noise levels.*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The proposed solar facility and new transmission lines would be located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). The portion of site that is located within the 60-65 dBA contour line is planned for the solar facility use. According to Table 4.8-7 (Table 2B of the ALUCP), proposed uses (i.e., utilities) within this contour are compatible with these noise levels. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not expose people residing or working in the project area to excessive noise level from a public airport and a less than significant impact under CEQA has been identified.

No portion of the Alternative 1-Alternative Transmission Line Corridor project site is located within the vicinity of a private airstrip; therefore, no significant noise impact under CEQA associated with airport activity would result.

4.8.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Construction Noise

Indicator 1: *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor).*

The noise generated by the construction of the Alternative 2-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 2-Alternative Transmission Line Corridor will generate short-term noise associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The loudest equipment expected to operate

would be equipment used during the grading process. Based on the worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time, the average daily construction noise level would vary between 43 and 48 dBA Leq-h or less at any sensitive receptor area. The nearest sensitive receptor (areas of habitation) that could be impacted by construction noise due to the Alternative 2-Alternative Transmission Line Corridor is the Imperial Lakes planned water skiing community located approximately 0.5 miles north of project site. This development consists of two water ski lakes surrounded by mobile homes. However, noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed disturbing to potential adjacent sensitive receptors (areas of habitation) per the requirements by the County of Imperial. It should be noted that the Noise Element of the General Plan identifies sensitive species such as bird species as sensitive receptors. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

Construction activities would adhere to the construction time periods of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sundays or holidays by ordinance. Therefore, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario), noise generated during construction activities is not considered significant under CEQA.

Groundborne Vibration

Indicator 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet. The nearest sensitive receptor, the Imperial Lakes development, is located approximately 0.5 miles (2,640 feet) north of the project site. However, at this distance, groundborne vibration would be less than 80 Vdb. Typical construction activities associated with development of the project under Alternative 2-Alternative Transmission Line Corridor would not result in perceptible, let alone excessive, groundborne vibration or groundborne noise levels. Therefore, the issue of groundborne vibration is considered less than significant under CEQA.

Burrowing owls and other sensitive bird species were observed on the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species.

B. Short-Term Construction Off-Site Roadway Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

Similar to the Proposed Action, no project-related traffic noise increases would occur under the existing conditions Year 2010 because there would be minimal or no project traffic. In the Year 2012, an exceedance 0.5 dBA is indicated on Dunaway Road between I-8 and the project access point. However, the exceedance is below the 3.0 dBA CEQA screening threshold. Therefore, the project under Alternative 2-Alternative Transmission Line Corridor's contribution to off-site roadway noise levels during the construction phase is not considered a significant impact under CEQA.

As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

C. Long-Term Operational Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic*

and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Alternative 2-Alternative Transmission Line Corridor On-site Operational Noise

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB and they do not exceed any noise level limits.

Similar to the Proposed Action, the project under Alternative 2-Alternative Transmission Line Corridor would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. The noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone. As such, onsite operational noise would not exceed the standards of the County of Imperial Noise Ordinance. Because the ambient noise increases caused by long-term project operations will be minor, and because the noise exposure will be within the established and relevant standards, the onsite operation noise generated under Alternative 2-Alternative Transmission Line Corridor is not considered a significant impact under CEQA.

Alternative 2-Alternative Transmission Line Corridor Off-site Traffic Noise Impacts

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Alternative 2-Alternative Transmission Line Corridor is not expected to result in a substantial off-site traffic-generated noise impact. Furthermore, as discussed above, the Proposed Action's construction traffic contribution (750 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Alternative 2-Alternative Transmission Line Corridor would not result in a significant off-site traffic noise impact under CEQA.

D. Noise Impacts on Airports

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; would the project expose people residing or working in the project area to excessive noise levels.*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor project site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The proposed solar facility and new transmission lines would be located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). The portion of site that is located within the 60-65 dBA contour line is planned for the solar facility use. According to Table 4.8-7 (Table 2B of the ALUCP), proposed uses (i.e., utilities) within this contour are compatible with these noise levels. Therefore, the Alternative 2-Alternative Transmission Line Corridor would not expose people residing or working in the project area to excessive noise level from a public airport and a less than significant impact under CEQA has been identified.

No portion of the Alternative 2-Alternative Transmission Line Corridor project site is located within the vicinity of a private airstrip; therefore, no significant noise impact under CEQA associated with airport activity would result.

4.8.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Construction Noise

Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor).

The noise generated by the construction of the Alternative 3-Reduced Solar Energy Facility Site includes all project components comprising of the solar energy facility site, transmission line and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 3-Reduced Solar Energy Facility Site will generate short-term noise associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The loudest equipment expected to operate would be equipment used during the grading process. Based on the worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time, the average daily construction noise level would vary between 43 and 48 dBA Leq-h or less at any sensitive receptor area. The nearest sensitive receptor (areas of habitation) that could be impacted by construction noise due to the Alternative 3-Reduced Solar Energy Facility Site is the Imperial Lakes planned water skiing community located approximately 0.5 miles north of project site. This development consists of two water ski lakes surrounded by mobile homes. However, noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed disturbing to potential adjacent sensitive receptors (areas of habitation) per the requirements by the County of Imperial. It should be noted that the Noise Element of the General Plan identifies sensitive species such as bird species as sensitive receptors. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

Construction activities would adhere to the construction time periods of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sundays or holidays by ordinance. Therefore, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario), noise generated during construction activities is not considered significant under CEQA.

Groundborne Vibration

Indicator 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet. The nearest sensitive receptor, the Imperial Lakes development, is located approximately 0.5 miles (2,640 feet) north of the project site. However, at this distance, groundborne vibration would be less than 80 Vdb. Typical construction activities associated with development of the project under Alternative 3-Reduced Solar Energy Facility Site would not result in perceptible, let alone excessive, groundborne vibration or groundborne noise levels. Therefore, the issue of groundborne vibration is considered less than significant under CEQA.

Burrowing owls and other sensitive bird species were observed on the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species.

B. Short-Term Construction Off-Site Roadway Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

Similar to the Proposed Action, no project-related traffic noise increases would occur under the existing conditions Year 2010 because there would be minimal or no project traffic. In the Year 2012, an

exceedance is indicated on Dunaway Road between I-8 and the project access point. However, the exceedance is below the 3.0 dBA CEQA screening threshold. Therefore, the project under Alternative 3-Reduced Solar Energy Facility Site's contribution to off-site roadway noise levels during the construction phase is not considered a significant impact under CEQA.

As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

C. Long-Term Operational Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Alternative 3-Reduced Solar Energy Facility Site On-site Operational Noise

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB and they do not exceed any noise level limits.

Similar to the Proposed Action, the project under Alternative 3-Reduced Solar Energy Facility Site would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. The noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone. As such, onsite operational noise would not exceed the standards of the County of Imperial Noise Ordinance.

Because the ambient noise increases caused by long-term project operations will be minor, and because the noise exposure will be within the established and relevant standards, the onsite operation noise generated under Alternative 3-Reduced Solar Energy Facility Site is not considered a significant impact under CEQA.

Alternative 3-Reduced Solar Energy Facility Site Off-site Traffic Noise Impacts

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Alternative 3-Reduced Solar Energy Facility Site is not expected to result in a substantial off-site traffic-generated noise impact. Furthermore, as discussed above, the Proposed Action's construction traffic contribution (750 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Alternative 3-Reduced Solar Energy Facility Site would not result in a significant off-site traffic noise impact under CEQA.

D. Noise Impacts on Airports

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; would the project expose people residing or working in the project area to excessive noise levels.*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site project site is located approximately six to seven miles southwest of the Naval Air Facility El Centro, California. The proposed solar facility and new transmission lines would be located within the Imperial County Airport Land Use Compatibility Plan (ALUCP) and are located adjacent to and within the Compatibility Zone "C" and Zone "D," which is identified as having a limited risk (Zone "C") and negligible risk (Zone "D") from airport activity (County of Imperial, ALUCP, 1996). The portion of site that is located within the 60-65 dBA contour line is planned for the solar facility use. According to Table 4.8-7 (Table 2B of the ALUCP), proposed uses (i.e., utilities) within this contour are compatible with these noise levels. Therefore, the Alternative 3-Reduced Solar Energy Facility Site would not expose people residing or working in the project area to excessive noise level from a public airport and a less than significant impact under CEQA has been identified.

No portion of the Alternative 3-Reduced Solar Energy Facility Site project site is located within the vicinity of a private airstrip; therefore, no significant noise impact under CEQA associated with airport activity would result.

4.8.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on noise from the Alternative 4-No Action/No Project Alternative.

4.8.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative would not result in a significant noise impact under CEQA; therefore, no mitigation is required.

4.8.2 NEPA Environmental Assessment

4.8.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provide above in Section 4.8.1.1, during the construction phases of the solar energy facility, transmission line, and the access road, short-term noise will be generally associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The degree of impacts will be dictated by the amount of construction equipment used, the density of heavy equipment, the proximity to a noise sensitive land use area, and the duration of the grading process. In any case, there will be short-term direct impacts to casual users of public lands during the construction of the solar energy facility, transmission line and the access road.

General grading and construction activity noise levels for various pieces of equipment are shown in Figure 4.8-1 above. Noise levels emanating from a single source typically fall off at a rate of 6 dB for every doubling of distance from the source. At a distance of 200 feet, the noise levels shown in Figure 4.8-1 are approximately 12 dBA less; at a distance of 1,000 feet, the levels are about 25 dBA less. The loudest equipment expected to operate would be equipment used during the grading process.

As identified above, noise associated with construction equipment would not exceed 75 dB Leq, thus it would not be disturbing to potential adjacent sensitive receptors (areas of habitation). The project site is otherwise not located in proximity of other types of sensitive land uses, including residential structures.

Sensitive bird species such as bird species are sensitive receptors that may also be impacted by noise from the construction and operation of the Proposed Action. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive bird species were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

Groundborne vibration is measured in terms of the velocity of the vibration oscillations. As with noise, a logarithmic decibel scale (VdB) is used to quantify vibration intensity. Groundborne vibration is usually perceived as annoying to building occupants when it exceeds 80 VdB (for fewer than 70 vibration events per day). The degree of annoyance depends on the type of land use, individual sensitivity to vibration, and the frequency of vibration events. Typically, vibration levels must exceed 100 VdB before building

damage. The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet. The nearest sensitive receptor is located approximately 0.5 miles (2,640 feet) north of the project site. However, at this distance, groundborne vibration would be less than 80 Vdb. Therefore, the Proposed Action would not generate excessive groundborne vibration or groundborne noise levels.

As shown in Table 4.8-4 above, no substantial project-related construction traffic noise increases would occur under the existing conditions (Year 2010) because there would be minimal or no project traffic. In the Year 2012, an exceedance is indicated on Dunaway Road between I-8 and the project access point. However, the exceedance is below the 3.0 dBA screening threshold.

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. Table 4.8-5 above identifies the typical sound levels for these noise sources. Based on the Table 4.8-5, noise generated during operation of transmission lines and transformers is at the quiet end of the noise spectrum. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB, and they do not exceed any noise level limits. All onsite fixed uses within the Proposed Action would be required to meet the operational noise standards shown in Table 4.8-6 above for all areas within the project site. As described above, the noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone.

The Proposed Action is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Proposed Action is not expected to result in a substantial off-site traffic generated noise impact.

B. Alternative 1-Alternative Transmission Line Corridor

Because the site of the Alternative 1-Alternative Transmission Line Corridor is located in the same vicinity as the Proposed Action, impacts to noise would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

Because the site of the Alternative 2-Alternative Transmission Line Corridor is located in the same vicinity as the Proposed Action, impacts to noise would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

Because the site of the Alternative 3-Solar Energy Facility Site is located in the same vicinity as the Proposed Action, impacts to noise would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.8.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regards to noise levels from the Alternative 4-No Action/No Project Alternative.

4.8.3 Mitigation Measures and Residual Impacts

Based on the impact analysis above, no mitigation measures are required to address impacts to noise, and therefore no analysis of residual impacts or the impacts of mitigation measures is necessary.

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4.9 Agricultural Resources

CEQA Significance Criteria

For the purposes of this EIR/EA, an Agricultural Resources impact would occur if implementation of the Proposed Action would:

Indicator 1: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use;*

Indicator 2: *Conflict with existing zoning for agricultural use, or a Williamson Act contract; or,*

Indicator 3: *Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.*

Appendix G of the CEQA Guidelines also identifies the California Agricultural Land Evaluation and Site Assessment (LESA) Model prepared by the California Department of Conservation (CDCA) as an optional model to use in assessing impacts on agriculture and farmland. A LESA evaluation (Appendix K of this EIR/EA) was prepared for the Proposed Action as discussed under Section 4.9.1.

NEPA Methodology

Federal agencies are required to identify and take into account the adverse effects of their programs on the preservation of farmland, consider alternative actions that could reduce impacts, and assure that federal programs are compatible, to the extent possible, with State and local programs to protect farmland (7 USC § 4201 *et seq.*). To comply with the provisions of the Farmland Protection Policy Act (FPPA), the federal agency responsible for NEPA compliance may utilize a state-adopted LESA system (7 CFR 358.4(f)). For the proposed Project and Alternatives, the federal agencies utilized California's LESA system. Once a Federal agency has performed an analysis under the FPPA for the conversion of a site, that agency's, or a second Federal agency's determination with regard to additional assistance or actions on the same site do not require additional redundant FPPA analysis.

In addition, evaluation of the Proposed Action's impacts on Agriculture Resources issues for NEPA purposes was framed using the above mentioned CEQA indicators, because those indicators capture the range of potential Agriculture Resources impacts that could occur as a result of the Proposed Action and Alternatives.

4.9.1 CEQA Environmental Analysis

The following agricultural resource analysis addresses the solar energy facility portion of the Proposed Action and alternatives. A detailed analysis is not provided for the transmission line corridor and access road components, as these components are located within BLM lands on which no portion of the land is utilized for agriculture. Furthermore, the CDCA prohibits agricultural uses in this area. Therefore, no direct impacts to agricultural resources are identified as a result of the transmission line and access road components located on BLM lands. All indirect impacts resulting from the transmission line and access road are accounted for in the analysis of direct impact evaluation of the Proposed Action and alternatives

for the solar energy facility site because the transmission line and access road are planned to serve the ISEC West.

4.9.1.1 Proposed Action

Indicator 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

Implementation of the Proposed Action would result in the temporary conversion of approximately 1,056.9 net buildable acres of land previously used for agricultural production to non-agricultural uses. Approximately 1,048.4 acres of the site is identified as Farmland of Local Importance and 8.5 acres is identified as Other Land. This land has not been utilized for agricultural production for over ten years. The loss of Farmland of Local Importance is considered a potentially significant impact under CEQA. The implementation of the Proposed Action's project design features and Mitigation Measure AR1 would prevent a permanent loss of valuable farmlands through project site restoration, conserving other agricultural land for farming purposes, or paying into the County agricultural fee program. The restoration of solar site to a state suitable for agriculture upon completion of the project is proposed as a project design feature, and would also be included as a Condition of the Conditional Use Permit.

A California Agricultural Land Evaluation and Site Assessment (LESA) Model Analysis was prepared for the Proposed Action and is provided as Appendix K on the attached CD of Technical Appendices found on the back cover of this EIR/EA. The LESA Model is an approach used to rate the relative quality of land resources based upon six specific measurable features. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Table 4.9-1 provides a summary of the LESA analysis. Based on the LESA analysis, the conversion of existing farmlands on the project site to other uses is considered a significant impact under CEQA. Implementation of Mitigation AR1, which would implement project site restoration, conserving other agricultural land for farming purposes, or paying into the County agricultural fee program, would reduce the impact to a level less than significant under CEQA. The restoration of solar site to a state suitable for agriculture upon completion of the project is proposed as a project design feature, and would also be included as a Condition of the Conditional Use Permit.

A. Zoning

Indicator 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.

The proposed solar energy facility portion of the project site is zoned A-2 (General Agriculture), A-2-R (General Agricultural Rural Zone), and A-3 (Heavy Agriculture). Pursuant to the Imperial County General Plan, the site is located within land designated for agricultural uses. Solar energy plants are an allowed use within these zones, subject to the issuance of a condition use permit. With the issuance of a conditional use permit, the proposed use would be consistent with Imperial County Land Use Ordinance and thus is also consistent with the land use designation of the site. No significant impact under CEQA is identified for this issue area.

TABLE 4.9-1
LESA (California) Analysis Summary-Proposed Action

	Factor Rating (0-100 Points)	Factor Weighting (Total = 1.00)	Weighted Factor Rating
I. SCORE SHEET SUMMARY			
Land Evaluation (LE)			
1. Land Capability Classification	63	0.25	15.75
2. Storie Index Rating	52	0.25	13
Land Evaluation (LE) Subscore			*28.75*
Site Assessment (SA)			
1. Project Size	100	0.15	15
2. Water Resource Availability	100	0.15	15
3. Surrounding Agricultural Lands	0	0.15	0
4. Protected Resource Lands	0	0.05	0
Site Assessment (SA) Subscore			*30*
Grand Total			58.75
II. CALIFORNIA LESA MODEL SCORING THRESHOLDS			
Total LESA Score	Scoring Decision		
0 TO 39 Points	Not Considered Significant		
40 to 59 Points	Considered Significant only if LE and SA subscores are greater than or equal to 20 points.		
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points.		
80 to 100 Points	Considered Significant		
III. SIGNIFICANCE DETERMINATION			
Significant. The LESA score is 58.75 and the LE and SA are both more than 20 points.			

Source: BRG Consulting, Inc., 2010.

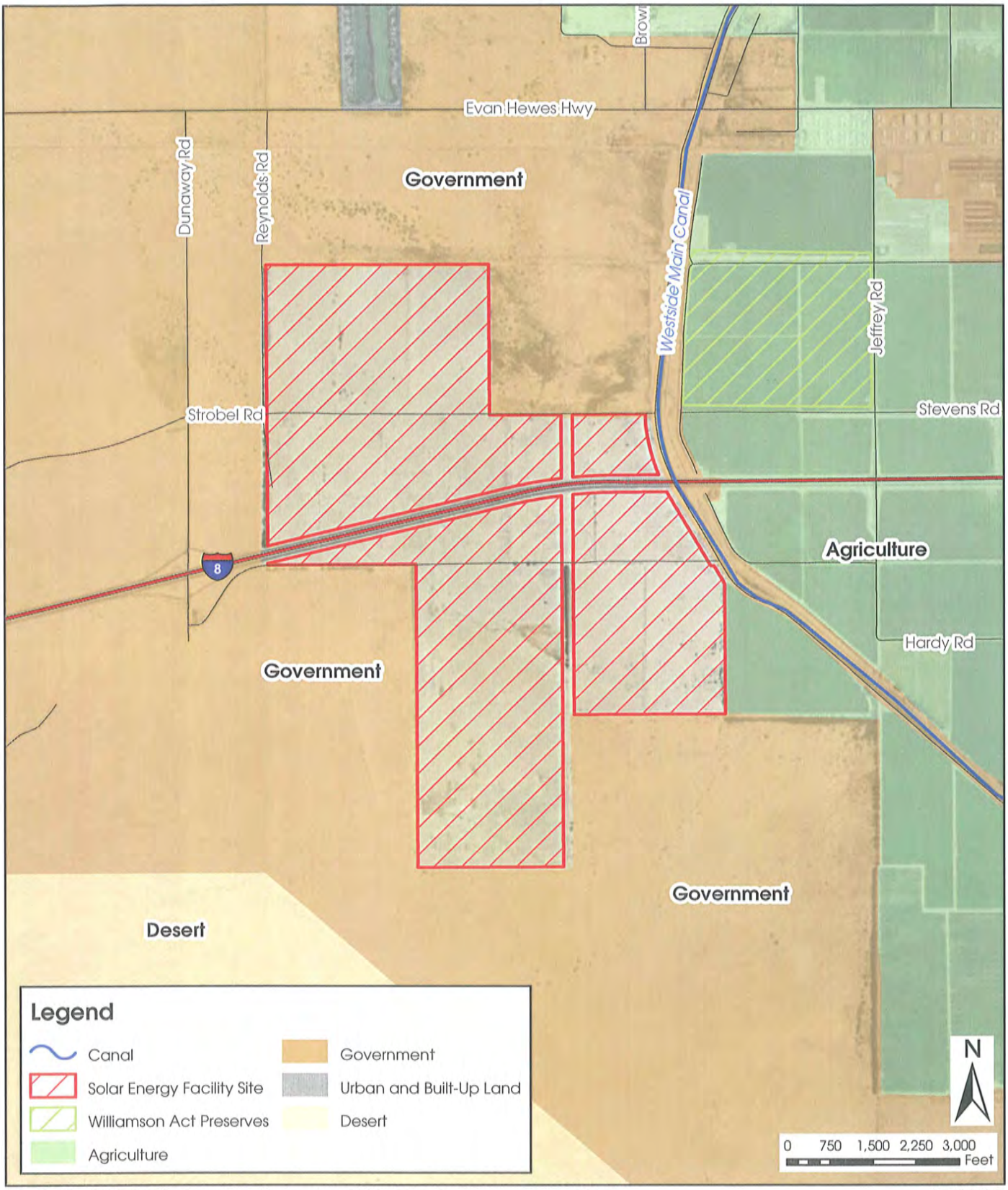
B. Williamson Act

There are no lands under Williamson Act contracts within the site. As a result, implementation of the Proposed Action will not result in the conversion of a Williamson Act contracted property to a non-agricultural use. No significant impact under CEQA to Williamson Act contracted property is anticipated.

C. Conversion of Adjacent Agricultural Land

Indicator 3: Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

As depicted in Figure 4.9-1, the solar facility site is surrounded by the BLM land (i.e. desert lands) to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however, there is no direct access connection between these uses and the solar energy site. The Westside Main Canal acts as a physical barrier between the project site and these uses. Therefore, the Proposed Action is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses.



SOURCE: ESRI, 2010; County of Imperial, 2010; BRG Consulting, Inc., 2010

10/19/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Agriculture Parcels within
0.25 Miles of Solar Energy Facility Site

FIGURE
4.9-1

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 9\Figure 4.9-1 Agri Parcels.mxd

Additionally, the Proposed Action is not a residential or commercial urban area that would create incompatibility issues with adjacent agricultural operations, or develop infrastructure that would attract or encourage development of adjacent farmlands. The County of Imperial General Plan designates the project site as Agriculture. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) will be enforced. Therefore, the Proposed Action would not result in the conversion of farmlands off-site to non-agricultural uses, and no significant impact under CEQA is identified for this issue area.

D. County of Imperial General Plan

The Agricultural Element of the General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The Goals, Objectives, Implementation Programs, and Policies found in the Agricultural Element provide direction for private development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements to guide agricultural land use decision-making and uphold the community's ideals. A summary of the relevant Agricultural Goals and Objectives and the project's consistency with such Goals and Objectives is summarized in Table 4.9-2.

The Proposed Action is consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan, but mitigation is required for the project. Also, the General Plan states that "social, economic, environmental, and legal considerations are involved in land use decisions, and these Goals and Objectives should be used as guidelines but not doctrines."

> <u>County Policy:</u> Per County policy, Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated except as provided in Exhibit C shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process.
>
> *The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this element) before granting final approval of any proposal which removes land from the Agriculture category.*

No portion of the project site is utilized for agricultural production. The site has remained fallow for approximately ten years. Further, no portion of the project site is classified as Prime Farmland or Farmland of Statewide Importance.

TABLE 4.9-2
Summary of Relevant Agricultural Goals and Objectives

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
Goal 1- All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by Federal and State agencies, should be reserved for agricultural uses.	Consistent: The project would temporarily convert land designated as Farmland of Local Importance to non-agricultural uses but mitigation is provided to prevent a permanent conversion.
Objective 1.1- Maintain existing agricultural land uses outside of urbanizing areas and allow only those land uses in agricultural areas that are compatible with agricultural activities.	Consistent: The Proposed Action uses are compatible with existing surrounding agricultural uses.
Objective 1.2- Encourage the continuation of irrigation agriculture on Important Farmland.	Consistent: The project would temporarily convert Important Farmland on-site to non-agricultural uses and mitigation is provided; however, this farmland is fallow and has not been irrigated for over ten years.
Objective 1.3- Conserve Important Farmland for continued farm related (non-urban) use and development while ensuring its proper management and use.	Consistent: The project would convert Important Farmland to non-agricultural uses and mitigation is required; however, the land has been fallow for over ten years.
Objective 1.4- Discourage the location of development adjacent to productive agricultural lands.	Consistent: The Proposed Action would develop a solar facility adjacent to productive agricultural lands. However, this development would not include a residential component. In addition, the Proposed Action is an allowable use within the project site's agricultural zoning (subject to the issuance of a Conditional Use Permit) and the zoning of the site is consistent with the land use designation for the project site.
Objective 1.5- Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.	Consistent: The project would temporarily convert land designated as Farmland of Local Importance to non-agricultural uses. However, with the issuance of a conditional use permit, the proposed use would be consistent with zoning and thus is also consistent with the land use designation of the site.
Objective 1.6- Recognize and preserve unincorporated areas of the County, outside the city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.	Consistent: The project would temporarily convert agricultural land located in an unincorporated area to non-agricultural uses. However, with issuance of a conditional use permit, the project would be an allowable use in an agricultural zone. Consistency with zoning implies consistency with the land use designation of the site.

TABLE 4.9-2
Summary of Relevant Agricultural Goals and Objectives

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
Objective 1.8- Allow conversion of agricultural land to non-agricultural uses only where a clear and immediate need can be demonstrated, based on population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show lack of alternative sites.	Consistent: The project site is designated as an agriculture land use. With approval of a conditional use permit, the Proposed Action would be consistent with the County's Land Use Ordinance. Therefore, because the project would be consistent with the Land Use Ordinance, it would also be consistent with the general plan land use designation.
Goal 2- Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of non-agricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent: The project site is designated as an agriculture land use. The project site is located adjacent to agriculture and BLM lands. The Proposed Action is the construction and operation of a solar facility and would not contain a residential component that would induce urbanization adjacent to the project site. Furthermore, with the issuance of a conditional use permit the project is consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the general plan land use designation.
Objective 2.1- Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent: Development of the project site would include construction and operation of a solar facility. Construction nor operation of the solar facility would not make it difficult to economically or conveniently farm. After project implementation the adjacent agricultural fields would remain contiguous to one another and not become isolated.
Objective 2.2- Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent: The Proposed Action site is the construction and operation of a solar facility. The Proposed Action is an industrial use and would not induce growth in the area nor result in the expansion of urban boundaries.
Objective 2.3- Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent: The Proposed Action would temporarily convert agricultural land to non-agricultural uses. However, the Proposed Action would not be subdivided into smaller parcels. The size of the existing parcels would be retained.

TABLE 4.9-2
Summary of Relevant Agricultural Goals and Objectives

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
Objective 2.4- Discourage the parcelization of large holdings.	Consistent: See response to Objective 2.3 above.
Objective 2.6- Discourage the development of new residential or other non-agricultural areas outside of city "sphere of influence" unless designated for non-agricultural use on the County General Plan, or for necessary public facilities.	Consistent: With approval of a conditional use permit, the Proposed Action would be an allowable use within the agricultural zones of the property. The allowable uses within the agricultural zones are consistent with the agriculture land use designation of the General Plan.
Goal 3- Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.	Consistent: With approval of a conditional use permit, the Proposed Action is a permitted use within the agricultural zones. Additionally, the project does not propose the development of housing.
Objective 3.2- Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).	Consistent: The Imperial County Right-to-Farm Ordinance would be enforced.
Objective 3.3- Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).	Consistent: The provisions of the State nuisance law would be incorporated into the Proposed Action.
Objective 3.5- As a general rule, utilize transitional land uses around urban areas as buffers from agricultural uses. Such buffers may include rural residential uses, industrial uses, recreational areas, roads, canals, and open space areas.	Consistent: The Proposed Action is a solar facility that is a permitted use on agricultural land and would be located adjacent to agricultural land.
Objective 3.6- Where a development permit is sought adjacent to agricultural land use, protect agricultural operations by requiring appropriate buffer zones between the agricultural land and new developments, and then keep these zones aesthetically pleasing and free of pests by cleaning them of all garbage and noxious vegetation. Vegetation for the purpose of dust control shall be planted and maintained in an attractive manner. The buffer shall occur on the parcel for which the development permit is sought and shall favor protection of the maximum amount of farmland.	Consistent: The Proposed Action would implement a weed control plan to be implemented during the construction phases and operation of the project. The burden of maintaining public roads falls upon the County of Imperial.

Source: County of Imperial General Plan, 1993

County Policy: Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

"Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts to the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in Cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

The solar energy facility site is designated by the General Plan as "Agriculture" and the solar energy facility is an allowable use, subject to issuance of a Conditional Use Permit, within the agricultural zoning of the site. The nature of the project warrants that the site be located adjacent to BLM lands for the construction of transmission lines and as far removed from other urban uses as possible. The project site is located on the periphery of active agricultural lands within the County and development of the site would not contribute to a "leapfrogging" pattern of development. The project is not expected to significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Furthermore, the period of construction for the solar energy facility is approximately one-year. Once constructed, the occupancy of the solar energy facility site would be approximately four full-time employees. As such, any conflict with the operations of adjacent agricultural lands is anticipated to be less than significant under CEQA due to the separation between uses, the relatively short duration of the construction period, and the very low occupancy of the project (i.e., approximately four full-time employees). In addition, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) will be enforced. Therefore, the Proposed Action would not result in a significant impact under CEQA to adjacent agricultural lands.

Also, Agricultural Element Programs that address "Leapfrogging" or "checkerboard" development include:

All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the project, such as noise, dust, or odors.

The Planning and Development Services Department shall review all proposed development projects to assure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area,

be adjoined on at least one entire property line to an area of existing urban uses. Developments, which do not meet these criteria, should not be approved.

The Proposed Action would not directly impact the movement of agricultural equipment on roads located within the Agriculture category. The project does not propose new roadways. Access to existing agriculture-serving roads would not be precluded or hindered by the project.

Furthermore, nuisance issues such as noise, dust, and odors would not impact the project, as the majority of the solar energy facility site is surrounded by BLM and agricultural land. In addition, the project is the construction and operation of a solar facility, which would not bring people to the area.

4.9.1.2 Alternative 1-Alternative Transmission Line Corridor

Indicator 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

Implementation of Alternative 1-Alternative Transmission Line Corridor would result in the temporary conversion of the same amount of farmland currently in agricultural production to non-agricultural uses as the Proposed Action. Under Alternative 1-Alternative Transmission Line Corridor, the proposed transmission line corridor would be modified, which is located within BLM lands and no agricultural resources are present in this area. The CDCA prohibits agricultural uses in this area. The solar energy facility site would be the same size under Alternative 1-Alternative Transmission Line Corridor as the Proposed Action; therefore, agricultural impacts would be the same. Approximately 1,048.4 acres of Farmland of Local Importance and 8.5 acres of Other Land would be converted. Based on the LESA analysis, which is the same under the Proposed Action and Alternative 1-Alternative Transmission Line Corridor, the conversion of existing farmlands on the project site to other uses is considered a significant impact under CEQA. Implementation of Mitigation Measure AR1 would reduce the impact to a level less than significant under CEQA.

A. Zoning

Indicator 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.

Implementation of Alternative 1-Alternative Transmission Line Corridor would not conflict with the existing zoning of the site. The proposed solar energy facility portion of the project site is zoned A-2 (General Agriculture), A-2-R (General Agricultural Rural Zone), and A-3 (Heavy Agriculture). Pursuant to the Imperial County General Plan, the site is located within land designated for agricultural uses. Solar energy plants are an allowed use within these zones, subject to the issuance of a condition use permit. With the issuance of a conditional use permit, Alternative 1-Alternative Transmission Line Corridor would be consistent with zoning and thus is also consistent with the land use designation of the site. No significant impact under CEQA is identified for this issue area.

B. Williamson Act

There are no lands under Williamson Act contracts within the site. As a result, implementation of Alternative 2-Alternative Transmission Line Corridor will not result in the conversion of a Williamson Act contracted property to a non-agricultural use. No significant impact under CEQA to Williamson Act contracted property is anticipated.

C. Conversion of Adjacent Agricultural Land

Indicator 3: Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

As depicted in Figure 4.9-1, the solar facility site is surrounded by the BLM land (i.e. desert lands) to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however, there is no direct access connection between these uses and the solar energy site. The Westside Main Canal acts as a physical barrier between the project site and these uses. Therefore, Alternative 1-Alternative Transmission Line Corridor is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses.

Additionally, Alternative 1-Alternative Transmission Line Corridor is not a residential or commercial urban area that would create incompatibility issues with adjacent agricultural operations, or develop infrastructure that would attract or encourage development of adjacent farmlands. The County of Imperial General Plan designates the project site as Agriculture. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) will be enforced. Therefore, Alternative 1-Alternative Transmission Line Corridor would not result in the conversion of farmlands off-site to non-agricultural uses, and no significant impact under CEQA is identified for this issue area.

D. County of Imperial General Plan

Alternative 1-Alternative Transmission Line Corridor would involve the conversion of the same amount of land as the Proposed Action currently in agricultural production. A summary of the relevant Agricultural Goals and Objectives and the project's consistency with such Goals and Objectives is summarized in Table 4.9-2. This summary would apply to Alternative 1-Alternative Transmission Line Corridor as well, as the solar energy facility site is the same size under this alternative as the Proposed Action.

As with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor is consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan, but mitigation is still required for the project.

4.9.1.3 Alternative 2-Alternative Transmission Line Corridor

Indicator 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

Implementation of Alternative 2-Alternative Transmission Line Corridor would result in the temporary conversion of the same amount of farmland currently in agricultural production to non-agricultural uses as the Proposed Action. Under Alternative 2-Alternative Transmission Line Corridor, the proposed transmission line corridor would be modified, which is located within BLM lands and no agricultural resources are present in this area. The CDCA prohibits agricultural uses in this area. The solar energy facility site would be the same size under Alternative 2-Alternative Transmission Line Corridor as the Proposed Action; therefore, agricultural impacts would be the same. Approximately 1,048.4 acres of Farmland of Local Importance and 8.5 acres of Other Land would be converted. Based on the LESA analysis, which is the same under the Proposed Action and Alternative 2-Alternative Transmission Line Corridor, the conversion of existing farmlands on the project site to other uses is considered a significant impact under CEQA. Implementation of Mitigation Measure AR1 would reduce the impact to a level less than significant under CEQA.

A. Zoning

Indicator 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.

Implementation of Alternative 2-Alternative Transmission Line Corridor would not conflict with the existing zoning of the site. The proposed solar energy facility portion of the project site is zoned A-2 (General Agriculture), A-2-R (General Agricultural Rural Zone), and A-3 (Heavy Agriculture). Pursuant to the Imperial County General Plan, the site is located within land designated for agricultural uses. Solar energy plants are an allowed use within these zones, subject to the issuance of a condition use permit. With the issuance of a conditional use permit, Alternative 2-Alternative Transmission Line Corridor would be consistent with zoning and thus is also consistent with the land use designation of the site. No significant impact under CEQA is identified for this issue area.

B. Williamson Act

There are no lands under Williamson Act contracts within the site. As a result, implementation of Alternative 2-Alternative Transmission Line Corridor will not result in the conversion of a Williamson Act contracted property to a non-agricultural use. No significant impact under CEQA to Williamson Act contracted property is anticipated.

C. Conversion of Adjacent Agricultural Land

Indicator 3: Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

As depicted in Figure 4.9-1, the solar facility site is surrounded by the BLM land (i.e. desert lands) to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however,

there is no direct access connection between these uses and the solar energy site. The Westside Main Canal acts as a physical barrier between the project site and these uses. Therefore, Alternative 2-Alternative Transmission Line Corridor is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses.

Additionally, Alternative 2-Alternative Transmission Line Corridor is not a residential or commercial urban area that would create incompatibility issues with adjacent agricultural operations, or develop infrastructure that would attract or encourage development of adjacent farmlands. The County of Imperial General Plan designates the project site as Agriculture. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) will be enforced. Therefore, Alternative 2-Alternative Transmission Line Corridor would not result in the conversion of farmlands off-site to non-agricultural uses, and no significant impact under CEQA is identified for this issue area.

D. County of Imperial General Plan

Alternative 2-Alternative Transmission Line Corridor would involve the conversion of the same amount of land as the Proposed Action currently in agricultural production. A summary of the relevant Agricultural Goals and Objectives and the project's consistency with such Goals and Objectives is summarized in Table 4.9-2. This summary would apply to Alternative 2-Alternative Transmission Line Corridor as well, as the solar energy facility site is the same size under this alternative as the Proposed Action.

As with the Proposed Action, Alternative 2-Alternative Transmission Line Corridor is consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan, but mitigation is still required for the project.

4.9.1.4 Alternative 3-Reduced Solar Energy Facility Site

Indicator 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

Implementation of the Alternative 3-Reduced Solar Energy Facility Site would reduce the amount of land previously used for agricultural production to non-agricultural uses as compared to the Proposed Action. Approximately 1,038.13 acres of Farmland of Local Importance and 8.48 acres of Other Land would be temporarily converted. Based on the LESA analysis prepared for Alternative 3-Reduced Solar Energy Facility Site, the conversion of existing farmlands on the project site to other uses is considered a significant impact under CEQA. Table 4.9-3 provides the LESA summary for Alternative 3-Reduced Solar Energy Facility Site. Implementation of Mitigation Measure AR1 would reduce the impact to a level less than significant under CEQA.

TABLE 4.9-3
LESA Analysis Summary-Alternative 3

	Factor Rating (0-100 Points)	Factor Weighting (Total = 1.00)	Weighted Factor Rating
I. SCORE SHEET SUMMARY			
Land Evaluation (LE)			
1. Land Capability Classification	62.81	.25	15.70
2. Storie Index Rating	51.67	.25	12.92
Land Evaluation (LE) Subscore			*28.62*
Site Assessment (SA)			
1. Project Size	100	.15	15
2. Water Resource Availability	100	.15	15
3. Surrounding Agricultural Lands	0	.15	0
4. Protected Resource Lands	0	.05	0
Site Assessment (SA) Subscore			*30*
Grand Total			58.62
II. CALIFORNIA LESA MODEL SCORING THRESHOLDS			
Total LESA Score	Scoring Decision		
0 TO 39 Points	Not Considered Significant		
40 to 59 Points	Considered Significant only if LE and SA subscores are greater than or equal to 20 points.		
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points.		
80 to 100 Points	Considered Significant		
III. SIGNIFICANCE DETERMINATION			
Significant. The LESA score is 58.62 and the LE and SA are both more than 20 points.			

Source: BRG Consulting, Inc., 2010.

A. Zoning

Indicator 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.

Implementation of Alternative 3-Reduced Solar Energy Facility Site would not conflict with the existing zoning of the site. The proposed solar energy facility portion of the project site is zoned A-2 (General Agriculture), A-2-R (General Agricultural Rural Zone), and A-3 (Heavy Agriculture). Pursuant to the Imperial County General Plan, the site is located within land designated for agricultural uses. Solar energy plants are an allowed use within these zones, subject to the issuance of a condition use permit. With the issuance of a conditional use permit, Alternative 3-Reduced Solar Energy Facility Site would be consistent with zoning and thus is also consistent with the land use designation of the site. No significant impact under CEQA is identified for this issue area.

B. Williamson Act

There are no lands under Williamson Act contracts within the site. As a result, implementation of Alternative 3-Reduced Solar Energy Facility Site will not result in the conversion of a Williamson Act contracted property to a non-agricultural use. No significant impact under CEQA to Williamson Act contracted property is anticipated.

C. Conversion of Adjacent Agricultural Land

Indicator 3: Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

As depicted in Figure 4.9-1, the solar facility site is surrounded by the BLM land (i.e. desert lands) to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however, there is no direct access connection between these uses and the solar energy site. The Westside Main Canal acts as a physical barrier between the project site and these uses. Therefore, Alternative 3-Reduced Solar Energy Facility Site is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses.

Additionally, Alternative 3-Reduced Solar Energy Facility Site is not a residential or commercial urban area that would create incompatibility issues with adjacent agricultural operations, or develop infrastructure that would attract or encourage development of adjacent farmlands. The County of Imperial General Plan designates the project site as Agriculture. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) will be enforced. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not result in the conversion of farmlands off-site to non-agricultural uses, and no significant impact under CEQA is identified for this issue area.

D. County of Imperial General Plan

Alternative 3-Reduced Solar Energy Facility Site would involve the conversion of less amount of land as the Proposed Action currently in agricultural production. Compared to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site will reduce the amount of land converted to non-agricultural uses by seven acres. A summary of the relevant Agricultural Goals and Objectives and the project's consistency with such Goals and Objectives is summarized in Table 4.9-2.

As with the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site is consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan, but mitigation is still required for the project.

4.9.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no impacts under CEQA on agricultural resources from the Alternative 4-No Action/No Project Alternative.

4.9.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will result in a project-specific impact related to the loss of agricultural land. However, implementation of Mitigation Measure AR1 (Proposed Action, Alternative 1-Alternative Transmission Line Corridor and Alternative 2-Alternative Transmission Line Corridor) and AR1-Alt 3 (Alternative 3-Reduced Solar Energy Facility Site) as identified below under Section 4.9.3, will reduce the impact to agricultural resources to a level of less than significant under CEQA. The mitigation options identified in Mitigation Measures AR1 would achieve the County's General Plan Goals of protection, preservation, and enhancement of agricultural and open space lands.

The Alternative 4-No Action/No Project Alternative will not result in a significant impact under CEQA to agricultural resources and no mitigation is required.

4.9.2 NEPA Environmental Assessment

4.9.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.9.1.1, the implementation of the solar energy facility portion of the Proposed Action would temporarily directly convert agricultural lands designated as Farmland of Local Importance to non-agricultural uses. The impacts to farmland were evaluated pursuant to the FPPA regulations and are shown in Table 4.9-1. Implementation of Mitigation Measure AR1 would mitigate for the temporary conversion of farmland by offsetting the impact through project site restoration, conserving other agricultural land for farming purposes, or paying into the County agricultural fee program.

Implementation of the Proposed Action would not conflict with the existing zoning of the site. The proposed solar energy facility portion of the project site is located within land designated for agricultural uses. Furthermore, there are no lands under Williamson Act contracts within the site and the Proposed Action would not directly or indirectly result in the conversion of Williamson Act contracted property to a non-agricultural use.

The Proposed Action would not directly or indirectly convert farmlands off-site to non-agricultural uses because the solar facility site is surrounded by BLM land to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however, there is no direct access connection between these uses and the solar energy facility site. The Westside Main Canal acts as a physical barrier between the project site and these uses.

The Proposed Action would not otherwise directly or indirectly interfere with agricultural operations. The solar energy facility site has not been used for agriculture for at least the past 10 years. There is no direct

access connection between the solar energy facility site and existing agricultural uses in the vicinity. Access to existing agriculture-serving roads would not be precluded or hindered by the project.

No portion of the Proposed Action located within BLM lands is utilized for agriculture. As such, development of the Proposed Action would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; conflict with existing zoning for agricultural use, or a Williamson Act contract; or, involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or otherwise interfere with agricultural operations.

Furthermore, the period of construction for the solar energy facility is approximately one-year. Once constructed, the occupancy of the solar energy facility site would be approximately four full-time employees, which have a potential to result in a indirect impact to the operations of adjacent agricultural lands (e.g., complaints of nearby agricultural operations). However, any conflict with the operations of adjacent agricultural lands is anticipated to be reduced due to the separation between uses, the relatively short duration of the construction period, the very low occupancy of the project (i.e., approximately four full-time employees), and enforcement of the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482).

B. Alternative 1-Alternative Transmission Line Corridor

The Agriculture Resources impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Agriculture Resources impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

Based on the analysis provided above under Section 4.9.1.4, similar to the Proposed Action, the implementation of the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site would temporarily directly convert agricultural lands designated as Farmland of Local Importance to non-agricultural uses. This alternative would reduce farmland impacts by reducing the size of the solar energy facility site.

Implementation of the Alternative 3-Reduced Solar Energy Facility Site would not conflict with the existing zoning of the site. The proposed solar energy facility portion of the project site is located within land designated for agricultural uses. Furthermore, there are no lands under Williamson Act contracts within the site, and the Alternative 3-Reduced Solar Energy Facility Site would not directly or indirectly result in the conversion of Williamson Act contracted property to a non-agricultural use.

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site would not directly or indirectly convert farmlands off-site to non-agricultural uses because the solar facility site is surrounded by BLM land to the north, south and west. Agricultural uses are prohibited on these BLM-administered public lands. Agricultural uses are located east of the Westside Main Canal, within the County of Imperial; however, there is no direct access connection between these uses and the solar energy facility site. The Westside Main Canal acts as a physical barrier between the project site and these uses.

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site would not otherwise directly or indirectly interfere with agricultural operations. The solar energy facility site has not been used for agriculture for at least the past 10 years. There is no direct access connection between the solar energy facility site and existing agricultural uses in the vicinity. Access to existing agriculture-serving roads would not be precluded or hindered by the project.

No portion of the Alternative 3-Reduced Solar Energy Facility Site located within BLM lands is utilized for agriculture. As such, development of the Alternative 3-Reduced Solar Energy Facility Site would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; conflict with existing zoning for agricultural use, or a Williamson Act contract; or, involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or otherwise interfere with agricultural operations.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.9.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect effects on agricultural resources from the Alternative 4-No Action/No Project Alternative.

4.9.3 Mitigation Measures and Residual Impacts

4.9.3.1 Proposed Action

The following mitigation measure has been identified to reduce the agricultural resources impact associated with the Proposed Action.

AR1 Prior to the issuance of a grading permit or building permit (whichever permit comes first) for the Proposed Action, the mitigation of impact to agricultural lands shall be accomplished via one of the following as determined by the Permittee:

The "Imperial Solar Energy Center West" project will result in the permanent loss of 1,048.4 acres of agricultural land (farmland of local importance) and the following mitigation measures shall apply:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 2 to 1 basis for all 1,048.4 acres, of similar quality farmland, outside of the path of development. The Conservation Easement shall meet the State Department of

Conservation's regulations and shall be recorded prior to issuance of any grading or building permits.

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the 1,048.4 acres based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee will be placed in a trust account administered by the Planning and Development Services Department and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County.

Option 3: The Permittee shall submit to the County of Imperial a reclamation plan to return the property to its current agricultural condition prior to the issuance of any building permits. The reclamation plan shall include a reclamation cost estimate prepared by a licensed general contractor or civil engineer. The Applicant shall provide financial assurance in the amount equal to the reclamation cost estimate to return the land to its current agricultural condition prior to the issuance of any building permits.

4.9.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measure AR1 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.9.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measure AR1 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.9.3.4 Alternative 3-Reduced Solar Energy Facility Site

The following mitigation measure has been identified to reduce the agricultural resources impact associated with the Alternative 3-Reduced Solar Energy Facility Site.

AR1-Alt 3 Prior to the issuance of a grading permit or building permit (whichever permit comes first) for the Alternative 3-Reduced Solar Energy Facility Site, the mitigation of impact to agricultural lands shall be accomplished via one of the following as determined by the Permittee:

The "Imperial Solar Energy Center West" project will result in the permanent loss of 1,038.13 acres of agricultural lands (farmland of local importance) and the following mitigation measures shall apply:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 2 to 1 basis for all 1,038.13 acres, of similar quality farmland, outside of the path of development. The Conservation Easement shall meet the State Department of

Conservation's regulations and shall be recorded prior to issuance of any grading or building permits.

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the 1,038.13 acres based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Planning and Development Services Department and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County.

Option 3: The Permittee shall submit to the County of Imperial a reclamation plan to return the property to its current agricultural condition prior to the issuance of any building permits. The reclamation plan shall include a reclamation cost estimate prepared by a licensed general contractor or civil engineer. The Applicant shall provide financial assurance in the amount equal to the reclamation cost estimate to return the land to its current agricultural condition prior to the issuance of any building permits.

4.9.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed under the Alternative 4-No Action/No Project Alternative, as no significant impacts under CEQA on agricultural resources would occur.

4.9.3.6 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measures AR1 and AR1-Alt 3: Option 1:

Implementation of Mitigation Measures AR1 and AR1-Alt 3: Option 1 would not result in a direct or indirect impact because procurement of the Agricultural Conservation Easement would occur on existing agricultural land within the County of Imperial.

Impact Analysis of Mitigation Measures AR1 and AR1-Alt 3: Option 2

Implementation of Mitigation Measures AR1 and AR1-Alt 3: Option 2 is a payment of an "Agricultural In-Lieu Fee Mitigation Fee" and would not result in a direct or indirect impact because these funds would be used on existing agricultural within the County of Imperial.

Impact Analysis of Mitigation Measures AR1 or AR1-Alt 3: Option 3

Implementation of Mitigation Measures AR1 and AR1-Alt 3: Option 3 is the preparation of a reclamation plan and payment of fees associated with the implementation of the plan. Implementation of the reclamation plan would not result in a direct or indirect impact because the site would be reverted back to its current agricultural condition.

4.9.3.7 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

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4.10 Health, Safety and Hazardous Materials/Fire and Fuels Management

This section looks at the impact of the Proposed Action with respect to health, safety, hazardous materials and fire safety as they relate to existing conditions on the project site. This analysis is framed by reference to existing conditions for these resources, which are reflected in Section 3.10 and the *Phase I Environmental Site Assessment, 1,150-Acre Imperial Valley West Property, Imperial County, California* prepared by Tetra Tech, Inc. (March 2010) and *Phase II Environmental Site Assessment, Imperial Valley West Property, Imperial County, California* prepared by Tetra Tech, Inc. (April 2010). These documents are provided on the attached CD of Technical Appendices as Appendix G1 and G2 of this EIR/EA.

CEQA Significance Threshold

For the purpose of this EIR/EA, a significant Health, Safety and Hazardous Materials/Fire and Fuels Management impact, under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Be included on a list of hazardous materials sites;*

Indicator 2: *Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment[1];*

Indicator 3: *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*

Indicator 4: *Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment[2];*

Indicator 5: *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area;*

Indicator 6: *Be located within an airport land use plan or within two miles of a public airport or public use airport;*

Indicator 7: *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; and,*

Indicator 8: *Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

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[1] The language of this CEQA significance/NEPA indicator has been modified to more accurately characterize the evaluation of associated potential impacts in the impacts analysis. Textual revisions to this indicator do not change the impact analysis and do not change the impact determinations associated with this indicator. The text has been modified to more closely follow Hazards and Hazardous Materials (b) in Appendix G of the CEQA Guidelines, which states: "Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment." Also, see the Foreword in this EIR/EA for discussion of revisions to the DEIR/EA.

[2] The language of this CEQA significance/NEPA indicator has been modified to more accurately characterize the evaluation of associated potential impacts in the impacts analysis. Textual revisions to this indicator do not change the impact analysis and do not change the impact determinations associated with this indicator. The text has been modified to more closely follow Hazards and Hazardous Materials (a) in Appendix G of the CEQA Guidelines, which states: "Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials." Also, see the Foreword in this EIR/EA for discussion of revisions to the DEIR/EA.

NEPA Methodology

Evaluation of potential impacts of the Proposed Action on Health, Safety and Hazardous Materials is based on review of relevant planning documents, including the California Desert Conservation Area Plan, Imperial County General Plan, the Imperial County Land Use Ordinance, the Federal Land Management Policy Act, and a field review of the project site and surrounding area. The focus of the analysis is on impacts that would result from implementation of the proposed project. Potential hazards are addressed in the context of possible impacts to the health and safety of the public. Impacts are identified and evaluated based on existing practices, information provided by the applicant and other information included as part of the project, and standards and policies related to the proposed use. The CEQA indicators identified above are used to provide a framework for the relevant NEPA analysis as they capture the various categories of potential impacts related to health, safety, hazardous materials and fire management that could be associated with the Proposed Action.

4.10.1 CEQA Environmental Analysis

4.10.1.1 Proposed Action

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

As discussed in Section 3.10.2.4 of this EIR/EA, potential hazardous materials currently on or near the solar facility site include pesticides and herbicides, scattered trash and debris, and fill material. The Proposed Action site, however, is not included on a list of hazardous materials sites based on the ASTM Standard Practice E2247-08 database search conducted as part of the Phase I ESA. In addition, testing results reported in the Phase II ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Indicator 2: Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment.

Potential for Release of Pesticides/Herbicides Already Existing on the Project Site

The solar energy facility portion of the project site was previously used for agricultural purposes, and has been subject to historic application of herbicides and pesticides. As a result, there is a potential for residual, low-level concentrations of these substances to be present in soil and/or groundwater. The Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Under FIFRA, all pesticides that are distributed or sold in the United States must be registered (licensed) by the Environmental Protection Agency (EPA). Before EPA may register a pesticide, the applicant must show, among other things, that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." As a result of regulations implemented under Section 307 (a) of the Clean Water Act and the State Porter-Cologne Act (See, Cal. Water Code Sections 13172, 13173.2, Cal. Health and Safety Code Section 25140), pesticide and herbicide applications are trending

away from legacy chemicals that can take years to degrade. Many legacy pesticides, such as DDT, which may have been used decades ago have fully degraded and no longer present a hazard, nor will they do so soon. (See, Pfafflin, J.R., Ziegler, E.N. Encyclopedia of Environmental Science and Engineering, Volume 2, P. 962 (2006) (showing that it takes approximately 4-10 years to achieve a 70-95% loss of DDT in soil). As noted in Section 3.10.2.4, testing conducted in connection with the ESAs did not reveal the presence of any significant surface or subsurface soil contamination. Nevertheless, given the prior agricultural use of the project site, the topsoil removed in connection with the construction of the Operations and Maintenance Building will be removed and disposed of properly off-site in accordance with current, local, state, and federal disposal regulations, as the topsoil presumably contains what chemical residue exists in those soils (if any). As such, the removal and disposal of the topsoil would minimize the exposure of the public and the environment to pesticides and herbicides. For all these reasons, the impact to the public and the environment as a result of any potential presence of agricultural chemicals on the project site is considered minimal and would be reduced by the implementation of the Proposed Action. Therefore, a less than significant impact under CEQA is identified for this issue area and no further action is required.

Potential Impacts from Clean up of Trash and Debris Currently Existing on Project Site

An abundant amount of trash and debris has been scattered throughout the solar energy facility site, particularly along the access roads on the project site. Improper cleanup and disposal of this debris has the potential to harm the public and the environment, which would be considered a significant environmental impact under CEQA. Implementation of Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state and federal disposal regulations, would reduce the potential impact to a level less than significant under CEQA.

The existing BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash were discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Soil samples were collected from SWDA-1 through SWDA-5, FR-1 and FR-2. Analyte concentrations reported do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste. Although arsenic concentrations were detected in soil samples collected from SWDA-5, the concentrations are within the common range of arsenic found in natural soils and are less than the maximum endpoint of concentrations normally found in soils in the western United States. Therefore, no impact under CEQA is identified for this issue area and no further action is required.

Fill Material

Several piles of gray ash-like material were observed in the southern portion of the solar energy facility portion of the project site, just south of the Interstate 8. Soil sampling was conducted in the Phase II ESA to assess the REC. The soil samples collected do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste, nor do detected compounds exceed EPA Region IX soil RSLs for industrial property. Trace amounts of naphthalene, gasoline, and diesel fuel were detected in the soil samples. However, the low level of these substances does not appear to be present in concentrations that

pose a threat to human health or the environment. Therefore, no impact under CEQA is identified for this issue area and no further action is required.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Based on a review of the EDR prepared for the project site, four surrounding sites were found within the requested search radii. A review of federal, state and local environmental records indicates that two aboveground storage tank sites are located within 2.25 miles of the solar energy facility site; one registered storage tank site is located within approximately 2.25 miles of the solar energy facility site; and, one Notify 65 site (facility that could impact drinking water) is within approximately three miles of the solar energy facility site. The three storage tanks sites will not have a significant effect on human health and safety through the release of hazardous materials, as the sites are not located within, or immediately adjacent to the solar energy facility site. The Notify 65 facility site, which has the potential to impact drinking water, will not have a significant effect on human health and safety because bottled water will be trucked to the site for drinking water. Therefore, the four surrounding sites identified in the EDR will not have a significant effect on human health and safety through the release of hazardous materials. A less than significant impact under CEQA is identified for this issue area.

A total of forty-one (41) orphan sites were identified in the EDR and were individually evaluated by Tetra Tech, Inc. However, none of the orphan sites was identified within a one-mile radius of the project site (American Society of Testing and Materials (ASTM) standard search distances). All forty-one (41) of the orphan sites are located over two miles from the project site. As such, the potential for adjacent properties to affect the Proposed Action through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Proposed Action

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

See Section 4.4 of this EIR/EA for a discussion of project emissions during the construction and operation phases of the Proposed Action. In any case, no component of the Proposed Action would emit hazardous emissions. Also, no component of the Proposed Action is located within one-quarter mile of an existing or proposed school. Therefore, no significant impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The hazardous materials used during the construction phase will be typical of most construction projects of this type. Such materials will include gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. All hazardous materials would be stored on-site in vessels/containers that are specifically designed for the characteristics of the materials to be stored; as appropriate, the storage facilities would include secondary containment. All hazardous materials will be required to be stored and managed per requirements of the Imperial County Fire Department, Imperial

County Office of Emergency Services, Department of Toxic Substances Control (DTSC), and Certified United Program Agencies (CUPA). Prior to construction, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor, and access road). The HMMP will be in accordance with Federal and State requirements. At a minimum, the HMMP will include procedures for hazardous material handling, use and storage; emergency response; spill control and prevention; employee training; and, record keeping and reporting. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during construction of the Proposed Action.

Limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. With the exception of the dielectric oil contained in the transformers, other hazardous materials will be stored in the O&M building. Flammable materials will be stored in flammable material storage cabinets with built-in containment sumps. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without adverse environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. As stated above, the HMMP will be in accordance with Federal and State requirements. Therefore, a less than significant impact is identified related to the transport and use of hazardous materials during operation of the Proposed Action.

When depleted or used, limited quantities of the hazardous materials described above may require disposal as hazardous waste. Typical project hazardous solid and liquid waste streams generated during operations may include empty containers, spent batteries, oil sorbent and spent oil filters, oily rags, and used hydraulic fluid, oils, and grease. To the extent feasible, these wastes will be recycled; only permitted and licensed recycling facilities will be used. If recycling is not possible, some hazardous solid wastes may be disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous wastes shipped off-site for recycling or a licensed and permitted hazardous waste hauler will transport disposal. Therefore, a less than significant impact would occur associated with the disposal of hazardous materials.

During project construction and operation of the solar facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. Implementation of Mitigation Measure HM2 will reduce the impact of routine herbicide use on the solar facility such that it would not create a hazard to the public or the environment, thus reducing the impact to a level less than significant under CEQA. Mitigation Measure HM2 requires that a weed management plan be developed and approved by the Imperial County Agricultural Commissioner. The Agricultural Commissioner's Office enforces the permitting and monitoring of pesticide and herbicide use to ensure legal and safe use of products. Additionally, the project would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and

implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP). The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

The project will include a single operations and maintenance (O&M) building located adjacent to the solar facility. A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site (approximately four full-time employees). This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system on the project site. With obtainment of the septic system permit, the project will comply with Department of Environmental Health Services requirements. Therefore, no significant impact under CEQA is identified for this issue area.

The solar energy facility inverters and transformers may be contained in metal or concrete structures, which would be designed to meet National Electric Manufacturers Association (NEMA) 1 or NEMA 3R IP44 standards for electrical enclosures. All electrical equipment (including inverters) not located within a larger enclosure will be designed specifically for outdoor installation. Outdoor electrical equipment would be contained within individual NEMA 3R metal clad enclosures. Additionally, the electrical equipment (whether contained within an enclosure or outdoor-rated) are subject to the product safety standard requirements of the UL and Conformance European (CE) certifications, which include assurance that the equipment would be safe to touch by humans and wildlife, and would not pose electrical shock or fire hazards.

Cadmium Telluride

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. In addition, CdTe's physical properties, including its extremely low vapor pressure and high boiling and melting points, along with its insolubility in water, limit its mobility. Furthermore, CdTe will not be handled independently on the project site aside from the very thin layer of CdTe incorporated into the PV or CPV modules that is encapsulated between two protective sheets of glass and is not readily exposed to the environment. As a result, the risk of health or environmental exposure in fires, from accidental breakage, or from leaching is considered minimal.

A 2005 peer review of three major published studies on the environmental profile of CdTe PV organized by the European Commission, Joint Research Center and sponsored by the German Environment Ministry concluded "…CdTe used in PV is an environmentally stable form that does not leak into the environment during normal use or foreseeable accidents, and therefore can be considered the environmentally safest current use of cadmium." This review also concluded that "…Large scale use of CdTe photovoltaic modules does not present any risks to public health and the environment."

Moreover, independent analysis also indicates that CdTe modules do not pose a risk during fires. CdTe has an extremely low vapor pressure, high boiling and melting points and is almost completely encapsulated by molten glass when exposed to fire. Exposure of pieces of CdTe PV modules to flame temperatures from 760 to 1100 degrees Celsius illustrated that CdTe diffuses into glass, rather than being released into the atmosphere. Higher temperatures produce further CdTe diffusion into the glass."

Through outdoor leaching experiments with small fragments of CdTe modules, an independent study estimated that in a worst-case scenario, materials leached from the modules into water would result in concentration levels that are below the U.S. Environmental Protection Agency's (USEPA) drinking water concentration limit for cadmium."

For these reasons, the CdTe incorporated into the PV or CPV panels that are proposed to be used at the solar facility will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment and thus would not have a significant effect on the hazardous materials issue under CEQA.

For all of the foregoing reasons, the Proposed Action will not result in hazardous materials impacts that exacerbate existing conditions and in some areas implementation of the Proposed Action will actually improve existing conditions. Therefore, these impacts are less than significant under CEQA.

Potential Impacts related to Electromagnetic Fields (EMF) and Radio Frequency Radiation Exposure

In a recent CPUC issued Decision D.06-01-042, the CPUC stated "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences." Reports from major research centers in other countries have come to similar conclusions that there is no compelling evidence of any health hazard from power lines and that if power lines do have any effect on human health, it is small.

Pursuant to CEQA Guidelines 15145 "If, after a thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the lead agency should note its conclusion and terminate discussion of the impact." Because there are no conclusive studies on EMF impacts it is too speculative to evaluate. Furthermore, proposed transmission facilities are not located in proximity to areas that are highly habitable (e.g. residential areas), therefore, there would not be a large population exposed to such effects.

B. Airport Compatibility

Indicator 5: *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.*

Indicator 6: *Be located within an airport land use plan or within two miles of a public airport or public use airport.*

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility El Centro. The site is located partially within Compatibility Zone "C" and "D," which is identified as having "limited risk" (Zone C) and "negligible risk" (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. Electrical substations and power lines are identified as "potentially compatible with restrictions" (Zone C), and "compatible" (Zone D). According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located under a military low-level training route, Visual Route (VR)-288. Military aircraft are authorized to fly at up to but not exceeding the speed of sound at altitudes as low as the published minimum while operating inside this route. There is frequent fixed wing and helicopter traffic along this route. As such, the project site may experience noise, vibrations, and interference from the over flight of aircraft.

On June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action would be consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers.

No private airstrips are located in the vicinity of the project site. Therefore, the Proposed Action would not expose people residing or working in the project area to excessive noise levels from a private airstrip. No significant impact under CEQA is identified associated with airport compatibility.

C. Emergency Plans

Indicator 7: *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Implementation of the Proposed Action will not result in a substantial impact associated with the emergency preparedness as the Proposed Action site is not currently designated as an emergency shelter area, and the Proposed Action will not impede movement along any established or planned evacuation plan. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan, the "Imperial County Emergency Plan" addresses Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, the Proposed Action is the development of a solar facility and does not contain a residential component. Therefore, the Proposed Action will not result in an impact to the existing emergency plan for the County of Imperial and will not impair implementation of, or physically interfere

with an adopted emergency response plan or emergency evacuation plan. A less than significant impact under CEQA is identified for this issue area.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Overall maintenance of the facility would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar facility is within the jurisdiction of the Imperial County Fire Department (ICFD). The facility will maintain the required volume of water required for fire fighting, based on the number and sizes of structures on the site. Water will be provided in a fire storage tank. The fire storage tank will be located within 150 feet of the O&M building. Fire protection measures will include sprinkler systems in the O&M building, a FM200 fire suppression system, or equivalent in the plant control room and electrical/control rooms, and portable carbon dioxide (CO_2) fire extinguishers mounted outside inverter/electrical distribution containers on pads throughout the solar array. Fire protection for the solar array and the off-site transmission line will be provided by vegetation management programs. Pursuant to ICFD regulations, during facility operations, vegetation within the solar facility would be controlled by trimming to minimize the risk of wildfire. The electric equipment (whether contained within an enclosure or outdoor-rated) are subject to the product safety standard requirements of the UL and Conformance European (CE) certifications, which include assurance that the equipment would be safe to touch by humans and wildlife, and would not pose electrical shock or fire hazards.

During construction and operation of the Proposed Action, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils.

However, the Proposed Action will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Prevention Plan. The Plan will address construction and operation activities for the project, and establish standards and practices that will minimize the risk of fire danger, and in the case of fire, provide for immediate suppression and notification. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are “No Smoking” areas. With the fire protection measures discussed above, the Proposed Action will not expose people or structures to increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of the Proposed Action.

Furthermore, the project site is not characterized as an area of urban/wildland interfaces. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (2000), the project site does not fall into an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) very high fire hazard severity zone. Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and a less than significant impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line and proposed access road on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor and associated access road would be located within Utility Corridor "N" of the BLM's California Desert Conservation Plan. As depicted in Figure 3.1-1 of this EIR/EA, the following are four existing transmission lines located south of the proposed transmission line and proposed access road within Utility Corridor "N": 1) Sempra; 2) Intergen; 3) SDG&E; 4) IID. Utility Corridor "N" is currently used for high voltage electricity transmission. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line is located in a desert and rural agricultural setting. The likelihood of humans to be exposed to hazards and safety issues such as exposure to electromagnetic fields and electric shock is considered low. Therefore, a less than significant impact under CEQA is identified for this issue area.

F. Intentionally Destructive Acts

The proposed facility presents an unlikely target for an intentionally destructive act and has an extremely low probability of attack. The safety, security, and monitoring measures discussed in Sections 2.1.3.7 and 2.1.3.8, provide preventative measures (fences, gates, lighting) and safeguards (cameras and gatehouse) for the facility that would restrict vehicle access and deter intentionally destructive acts.

Theft or opportunistic vandalism would be more likely than sabotage or terrorist acts. The results of any such acts could be expensive to repair, but no substantial impacts to continued electrical service would be anticipated. No significant environmental impacts under CEQA would be expected from physical damage to the Proposed Action or from loss of power delivery.

4.10.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

As discussed in Section 3.10.2.4 of this EIR/EA, potential hazardous materials currently on or near the solar facility site include pesticides and herbicides, scattered trash and debris, and fill material. However, the site is not included on a list of hazardous materials sites based on the ASTM Standard Practice E2247-08 database search conducted as part of the Phase I ESA. In addition, testing results reported in the Phase II

ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Indicator 2: Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment.

Similar to the Proposed Action, the impact to the public or the environment as a result of any potential presence of agricultural chemicals on the solar energy facility portion of the Alternative 1-Alternative Transmission Line Corridor is considered minimal because the testing conducted in connection with the ESAs did not reveal the presence of any significant surface or subsurface soil contamination. Furthermore, the impact to the public and the environmental as a result of any potential presence of agricultural chemicals on the project site would be reduced with the implementation of the Alternative 1-Alternative Transmission Line Corridor because the topsoil and the chemical residue that exists in the topsoil (if any) would be removed in connection with the construction of the Operations and Maintenance Building. Therefore, a less than significant impact under CEQA is identified for this issue area and no further action is required.

Similar to the Proposed Action, the soil samples collected from the SWDAs do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste. In addition, the soil samples collected from the pile of fill material do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste, nor do detected compounds exceed EPA Region IX soil RSLs for industrial property. As such, the SWDAs and fill material do not pose a threat to human health or the environment. Therefore, a less than significant impact under CEQA is identified associated with this issue area.

The impact associated with the presence of an abundant amount of trash and debris scattered throughout the proposed solar energy facility site would be the same as the Proposed Action, and implementation of Mitigation Measure HM1, which would require the removal and disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce this impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash were discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Similar to the Proposed Action, four surrounding sites were identified in the EDR. The three storage tanks sites will not significantly affect human health and safety through the release of hazardous materials, as the sites are not located within, or immediately adjacent to the solar energy facility site. The Notify 65 facility site, which has the potential to impact drinking water, will not significantly impact human health and safety because bottled water will be trucked to the site for drinking water. Therefore, the four surrounding sites

identified in the EDR will not significantly impact human health and safety through the release of hazardous materials. A less than significant impact under CEQA is identified for this issue area.

The forty-one (41) orphan sites identified in the EDR are located over two miles from the project site. As such, the potential for adjacent properties to affect human health and safety through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Alternative 1-Alternative Transmission Line Corridor

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Alternative 1-Alternative Transmission Line Corridor would not emit hazardous emissions. Also, no component of the Alternative 1-Alternative Transmission Line Corridor is located within one-quarter mile of an existing or proposed school. Therefore, no significant impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The use of hazardous materials during construction and operation of Alternative 1-Alternative Transmission Line Corridor would be the same as the Proposed Action, as the same project features are proposed under this alternative (the distinguishing feature is an alternative transmission line corridor). Use of hazardous materials during the construction of the solar facility under Alternative 1-Alternative Transmission Line Corridor will include gasoline, diesel fuels, degreasers, and paints. All hazardous materials would be stored on-site in containers that are specifically designed for the characteristics of the materials to be stored. In addition, all hazardous materials are required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control, and Certified United Program Agencies. Furthermore, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor, and access road) in accordance with Federal and State requirements. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during the construction phase of the project under Alternative 1-Alternative Transmission Line Corridor.

As with the Proposed Action, limited quantities of hazardous materials will also be used and stored on-site for the operation and maintenance of the solar facility under Alternative 1-Alternative Transmission Line Corridor. All hazardous materials will be properly stored in containers. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. As stated above, the HMMP will be in accordance with Federal and State requirements. Therefore, a less than significant impact under CEQA is identified related to the

transport and use of hazardous materials during operation of the project under Alternative 1-Alternative Transmission Line Corridor.

Limited quantities of the hazardous materials described above may require disposal as hazardous waste. Wastes will either be recycled by permitted and licensed recycling facilities or disposed of at a permitted and licensed treatment and/or disposal facility. Therefore, a less than significant impact under CEQA would occur associated with the disposal of hazardous materials.

During project construction and operation of the solar facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. However, with the implementation of Mitigation Measure HM2, this impact will be reduced to a level less than significant under CEQA. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved PUP. The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site. This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system. With obtainment of this permit, no significant impact under CEQA would occur under Alternative 1-Alternative Transmission Line Corridor.

Cadmium Telluride

Similar to the Proposed Action, the CdTe incorporated into the PV or CPV panels that are proposed to be used at the solar energy facility site will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment. The Alternative 1-Alternative Transmission Line Corridor's hazardous materials impacts are less than significant under CEQA.

Potential Impacts related to Electromagnetic Fields (EMF) and Radio Frequency Radiation Exposure

In a recent CPUC issued Decision D.06-01-042, the CPUC stated "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative

health consequences." Reports from major research centers in other countries have come to similar conclusions that there is no compelling evidence of any health hazard from power lines and that if power lines do have any effect on human health, it is small.

Pursuant to CEQA Guidelines 15145 "If, after a thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the lead agency should note its conclusion and terminate discussion of the impact." Because there are no conclusive studies on EMF impacts it is too speculative to evaluate. Furthermore, proposed transmission facilities are not located in proximity to areas that are highly habitable (e.g. residential areas), therefore, there would not be a large population exposed to such effects.

B. Airport Compatibility

Indicator 5: Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.

Indicator 6: Be located within an airport land use plan or within two miles of a public airport or public use airport.

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility El Centro. The site is located partially within Compatibility Zone "C" and "D," which is identified as having "limited risk" (Zone C) and "negligible risk" (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. Electrical substations and power lines are identified as "potentially compatible with restrictions" (Zone C), and "compatible" (Zone D). According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located under a military low-level training route, Visual Route (VR)-288. Military aircraft are authorized to fly at up to but not exceeding the speed of sound at altitudes as low as the published minimum while operating inside this route. There is frequent fixed wing and helicopter traffic along this route. As such, the project site may experience noise, vibrations, and interference from the over flight of aircraft.

On June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action would be consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers.

No private airstrips are located in the vicinity of the project site. Therefore, Alternative 1-Alternative Transmission Line Corridor would not expose people residing or working in the project area to excessive noise level from a private airstrip. No significant impact under CEQA is identified associated with airport compatibility.

C. Emergency Plans

Indicator 7: Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Implementation of Alternative 1-Alternative Transmission Line Corridor will not result in an impact associated with the emergency preparedness as the Alternative1-Alternative Transmission Line Corridor site is not currently designated as an emergency shelter area, and the Alternative1-Alternative Transmission Line Corridor will not impede movement along any established or planned evacuation plan. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan, the "Imperial County Emergency Plan" addresses Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, the Alternative1-Alternative Transmission Line Corridor is the development of a solar facility and does not contain a residential component. Therefore, the Alternative1-Alternative Transmission Line Corridor will not result in an impact to the existing emergency plan for the County of Imperial and will not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. A less than significant impact under CEQA would occur.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Under Alternative 1-Alternative Transmission Line Corridor, the solar energy site components are the same as the Proposed Action. The distinguishing feature is the transmission corridor alignment through BLM lands. Under Alternative 1-Alternative Transmission Line Corridor, overall maintenance of the facility would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar facility is within the jurisdiction of the Imperial County Fire Department (ICFD). The facility will maintain the required volume of water required for fire fighting with an on-site fire storage tank located within 150 feet of the O&M building. On-site fire protection measures will include sprinkler systems and fire extinguishers.

During construction and operation of the Alternative 1-Alternative Transmission Line Corridor, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils. However, the Alternative 1-Alternative Transmission Line Corridor will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are "No Smoking" areas. With the fire protection measures discussed above, the Alternative 1-Alternative Transmission Line Corridor will not expose people or structures to an increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas

or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of Alternative 1-Alternative Transmission Line Corridor.

Furthermore, no portion of the Alternative 1-Alternative Transmission Line Corridor is characterized as an area of urban/wildland interfaces in the Imperial County Natural Hazard Disclosure (Fire) Map by the California Department of Forestry and Fire Protection (2000). Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and a less than significant impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line and proposed access road on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor and proposed access road would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line and proposed access road are located in a rural agricultural setting. The likelihood of humans to be exposed to hazards and safety issues such as exposure to electromagnetic fields and electric shock is considered low. Therefore, a less than significant impact under CEQA is identified for this issue area.

F. Intentionally Destructive Acts

The proposed facility presents an unlikely target for an intentionally destructive act and has an extremely low probability of attack. The safety, security, and monitoring measures discussed in Sections 2.1.3.7 and 2.1.3.8, provide preventative measures (fences, gates, lighting) and safeguards (cameras and gatehouse) for the facility that would restrict vehicle access and deter intentionally destructive acts.

Theft or opportunistic vandalism would be more likely than sabotage or terrorist acts. The results of any such acts could be expensive to repair, but no substantial impacts to continued electrical service would be anticipated. No significant environmental impacts under CEQA would be expected from physical damage to the project under Alternative1-Alternative Transmission Line Corridor or from loss of power delivery.

4.10.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

As discussed in Section 3.10.2.4 of this EIR/EA, potential hazardous materials currently on or near the solar facility site include pesticides and herbicides, scattered trash and debris, and fill material. However, the site is not included on a list of hazardous materials sites based on the ASTM Standard Practice E2247-08 database search conducted as part of the Phase I ESA. In addition, testing results reported in the Phase II

ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Indicator 2: Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment.

Similar to the Proposed Action, the impact to the public or the environment as a result of any potential presence of agricultural chemicals on the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor is considered minimal because the testing conducted in connection with the ESAs did not reveal the presence of any significant surface or subsurface soil contamination. Furthermore, the impact to the public and the environmental as a result of any potential presence of agricultural chemicals on the project site would be reduced with the implementation of the Alternative 2-Alternative Transmission Line Corridor because the topsoil and the chemical residue that exists in the topsoil (if any) would be removed in connection with the construction of the Operations and Maintenance Building. Therefore, a less than significant impact under CEQA is identified for this issue area and no further action is required.

Similar to the Proposed Action, the soil samples collected from the SWDAs do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste. In addition, the soil samples collected from the pile of fill material do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste, nor do detected compounds exceed EPA Region IX soil RSLs for industrial property. As such, the SWDAs and fill material do not pose a threat to human health or the environment. Therefore, a less than significant impact under CEQA is identified associated with this issue area.

The impact associated with the presence of an abundant amount of trash and debris scattered throughout the proposed solar energy facility site would be the same as the Proposed Action, and implementation of Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce this impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash were discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Similar to the Proposed Action, four surrounding sites were identified in the EDR. The three storage tanks sites will not significantly affect human health and safety through the release of hazardous materials, as the sites are not located within, or immediately adjacent to the solar energy facility site. The Notify 65 facility site, which has the potential to impact drinking water, will not significantly impact human health and safety because bottled water will be trucked to the site for drinking water. Therefore, the four surrounding sites identified in the EDR will not significantly impact human health and safety through the release of hazardous materials. A less than significant impact under CEQA is identified for this issue area.

The forty-one (41) orphan sites identified in the EDR are located over two miles from the project site. As such, the potential for adjacent properties to affect human health and safety through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Alternative 2-Alternative Transmission Line Corridor

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Alternative 2-Alternative Transmission Line Corridor would not emit hazardous emissions. Also, no component of the Alternative 2-Alternative Transmission Line Corridor is located within one-quarter mile of an existing or proposed school. No significant impact under CEQA associated with this issue area is anticipated.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The use of hazardous materials during construction and operation of Alternative 2-Alternative Transmission Line Corridor would be the same as the Proposed Action, as the same project features are proposed under this alternative (the distinguishing feature is an alternative transmission line corridor). Use of hazardous materials during the construction of the solar facility under Alternative 2-Alternative Transmission Line Corridor will include gasoline, diesel fuels, degreasers, and paints. All hazardous materials would be stored on-site in containers that are specifically designed for the characteristics of the materials to be stored. In addition, all hazardous materials are required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control, and Certified United Program Agencies. Furthermore, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor, and access road) in accordance with Federal and State requirements. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during the construction phase of the project under Alternative 2-Alternative Transmission Line Corridor.

As with the Proposed Action, limited quantities of hazardous materials will also be used and stored on-site for the operation and maintenance of the solar facility under Alternative 2-Alternative Transmission Line Corridor. All hazardous materials will be properly stored in containers. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without adverse environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. As stated above, the HMMP will be in accordance with Federal and State requirements. Therefore, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during operation of the project under Alternative 2-Alternative Transmission Line Corridor.

Limited quantities of the hazardous materials described above may require disposal as hazardous waste. Wastes will either be recycled by permitted and licensed recycling facilities or disposed of at a permitted and licensed treatment and/or disposal facility. Therefore, a less than significant impact under CEQA would occur associated with the disposal of hazardous materials.

During project construction and operation of the solar facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. However, with the implementation of Mitigation Measure HM2, this impact will be reduced to a level less than significant under CEQA. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved PUP. The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site. This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system. With obtainment of this permit, no significant impact under CEQA would occur under Alternative 2-Alternative Transmission Line Corridor.

Cadmium Telluride

Similar to the Proposed Action, the CdTe incorporated into the PV or CPV panels that are proposed to be used at the solar energy facility site will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment. The Alternative 2-Alternative Transmission Line Corridor's hazardous materials impacts are less than significant under CEQA.

Potential Impacts related to Electromagnetic Fields (EMF) and Radio Frequency Radiation Exposure

In a recent CPUC issued Decision D.06-01-042, the CPUC stated "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences." Reports from major research centers in other countries have come to similar conclusions that there is no compelling evidence of any health hazard from power lines and that if power lines do have any effect on human health, it is small.

Pursuant to CEQA Guidelines 15145 "If, after a thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the lead agency should note its conclusion and terminate discussion of the impact." Because there are no conclusive studies on EMF impacts it is too speculative to evaluate. Furthermore, proposed transmission facilities are not located in proximity to areas that are highly habitable (e.g. residential areas), therefore, there would not be a large population exposed to such effects.

B. Airport Compatibility

Indicator 5: *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.*

Indicator 6: *Be located within an airport land use plan or within two miles of a public airport or public use airport.*

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility El Centro. The site is located partially within Compatibility Zone "C" and "D," which is identified as having "limited risk" (Zone C) and "negligible risk" (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. Electrical substations and power lines are identified as "potentially compatible with restrictions" (Zone C), and "compatible" (Zone D). According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located under a military low-level training route, Visual Route (VR)-288. Military aircraft are authorized to fly at up to but not exceeding the speed of sound at altitudes as low as the published minimum while operating inside this route. There is frequent fixed wing and helicopter traffic along this route. As such, the project site may experience noise, vibrations, and interference from the over flight of aircraft.

On June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action would be consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers.

No private airstrips are located in the vicinity of the project site. Therefore, Alternative 2-Alternative Transmission Line Corridor would not expose people residing or working in the project area to excessive noise level from a private airstrip. No significant impact under CEQA is identified associated with airport compatibility.

C. Emergency Plans

Indicator 7: *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Implementation of Alternative 2-Alternative Transmission Line Corridor will not result in an impact associated with the emergency preparedness as the Alternative1-Alternative Transmission Line Corridor site is not currently designated as an emergency shelter area, and the Alternative1-Alternative Transmission Line

Corridor will not impede movement along any established or planned evacuation plan. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan, the "Imperial County Emergency Plan" addresses Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, the Alternative1-Alternative Transmission Line Corridor is the development of a solar facility and does not contain a residential component. Therefore, the Alternative1-Alternative Transmission Line Corridor will not result in an impact to the existing emergency plan for the County of Imperial and will not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. A less than significant impact under CEQA would occur.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Under Alternative 2-Alternative Transmission Line Corridor, the solar energy site components are the same as the Proposed Action. The distinguishing feature is the transmission corridor alignment through BLM lands. Under Alternative 2-Alternative Transmission Line Corridor, overall maintenance of the facility would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar facility is within the jurisdiction of the Imperial County Fire Department (ICFD). The facility will maintain the required volume of water required for fire fighting with an on-site fire storage tank located within 150 feet of the O&M building. On-site fire protection measures will include sprinkler systems and fire extinguishers.

During construction and operation of the Alternative 2-Alternative Transmission Line Corridor, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils. However, the Alternative 2-Alternative Transmission Line Corridor will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are "No Smoking" areas. With the fire protection measures discussed above, the Alternative 2-Alternative Transmission Line Corridor will not expose people or structures to an increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of Alternative 2-Alternative Transmission Line Corridor.

Furthermore, no portion of the Alternative 2-Alternative Transmission Line Corridor is characterized as an area of urban/wildland interfaces in the Imperial County Natural Hazard Disclosure (Fire) Map by the California Department of Forestry and Fire Protection (2000). Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and no impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line and proposed access road on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor and proposed access road would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line and proposed access road are located in a rural agricultural setting. The likelihood of humans to be exposed to hazards and safety issues such as exposure to electromagnetic fields and electric shock is considered low. Therefore, a less than significant impact under CEQA is identified for this issue area.

F. Intentionally Destructive Acts

The proposed facility presents an unlikely target for an intentionally destructive act and has an extremely low probability of attack. The safety, security, and monitoring measures discussed in Sections 2.1.3.7 and 2.1.3.8, provide preventative measures (fences, gates, lighting) and safeguards (cameras and gatehouse) for the facility that would restrict vehicle access and deter intentionally destructive acts.

Theft or opportunistic vandalism would be more likely than sabotage or terrorist acts. The results of any such acts could be expensive to repair, but no substantial impacts to continued electrical service would be anticipated. No significant environmental impacts under CEQA would be expected from physical damage to the project under Alternative1-Alternative Transmission Line Corridor or from loss of power delivery.

4.10.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

As discussed in Section 3.10.2.4 of this EIR/EA, potential hazardous materials currently on or near the solar facility site include pesticides and herbicides, scattered trash and debris, and fill material. However, the site is not included on a list of hazardous materials sites based on the ASTM Standard Practice E2247-08 database search conducted as part of the Phase I ESA. In addition, testing results reported in the Phase II ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Indicator 2: Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment.

Similar to the Proposed Action, the impact to the public or the environment as a result of any potential presence of agricultural chemicals on the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site is considered minimal because the testing conducted in connection with the ESAs did not reveal the presence of any significant surface or subsurface soil contamination. Furthermore, the impact to the public and the environmental as a result of any potential presence of agricultural chemicals on the project site would be reduced with the implementation of the Alternative 3-Reduced Solar Energy Facility Site because the topsoil and the chemical residue that exists in the topsoil (if any) would be removed in connection with the construction of the Operations and Maintenance Building. Therefore, a less than significant impact under CEQA is identified for this issue area and no further action is required.

Similar to the Proposed Action, the soil samples collected from the SWDAs do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste. In addition, the soil samples collected from the pile of fill material do not meet the threshold concentration for classification as non-RCRA or RCRA hazardous waste, nor do detected compounds exceed EPA Region IX soil RSLs for industrial property. As such, the SWDAs and fill material do not pose a threat to human health or the environment. Therefore, a less than significant impact under CEQA is identified associated with this issue area.

The impact associated with the presence of an abundant amount of trash and debris scattered throughout the proposed solar energy facility site would be the same as the Proposed Action, and implementation of Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce this impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash were discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Similar to the Proposed Action, four surrounding sites were identified in the EDR. The three storage tanks sites will not significantly affect human health and safety through the release of hazardous materials, as the sites are not located within, or immediately adjacent to the solar energy facility site. The Notify 65 facility site, which has the potential to impact drinking water, will not significantly impact human health and safety because bottled water will be trucked to the site for drinking water. Therefore, the four surrounding sites identified in the EDR will not significantly impact human health and safety through the release of hazardous materials. A less than significant impact under CEQA is identified for this issue area.

The forty-one (41) orphan sites identified in the EDR are located over two miles from the project site. As such, the potential for adjacent properties to affect human health and safety through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Alternative 3-Reduced Solar Energy Facility Site

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Alternative 3-Reduced Solar Energy Facility Site would not emit hazardous emissions. Also, no component of the Alternative 3-Reduced Solar Energy Facility Site is located within one-quarter mile of an existing or proposed school. No significant impact under CEQA associated with this issue area is anticipated.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The use of hazardous materials during construction and operation of Alternative 3-Reduced Solar Energy Facility Site would be the same as the Proposed Action, as the same project features are proposed under this alternative (the distinguishing feature is a reduced size solar energy facility). Use of hazardous materials during the construction of the solar facility under Alternative 3-Reduced Solar Energy Facility Site will include gasoline, diesel fuels, degreasers, and paints. All hazardous materials would be stored on-site in containers that are specifically designed for the characteristics of the materials to be stored. In addition, all hazardous materials are required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control, and Certified United Program Agencies. Furthermore, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor, and access road) in accordance with Federal and State requirements. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during the construction phase of the project under Alternative 3-Reduced Solar Energy Facility Site.

As with the Proposed Action, limited quantities of hazardous materials will also be used and stored on-site for the operation and maintenance of the solar facility under Alternative 3-Reduced Solar Energy Facility Site. All hazardous materials will be properly stored in containers. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. As stated above, the HMMP will be in accordance with Federal and State requirements. Therefore, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during operation of the project under Alternative 3-Reduced Solar Energy Facility Site.

Limited quantities of the hazardous materials described above may require disposal as hazardous waste. Wastes will either be recycled by permitted and licensed recycling facilities or disposed of at a permitted and licensed treatment and/or disposal facility. Therefore, a less than significant impact under CEQA would occur associated with the disposal of hazardous materials.

During project construction and operation of the solar facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. However, with the implementation of Mitigation Measure HM2, this impact will be reduced to a level less than significant under CEQA. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved PUP. The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site. This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system. With obtainment of this permit, no significant impact under CEQA would occur under Alternative 3-Reduced Solar Energy Facility Site.

Cadmium Telluride

As discussed above in Section A, regarding the Proposed Action, use of CdTe at the solar energy facility site will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment. The Alternative 3-Reduced Solar Energy Facility Site's hazardous materials impacts are less than significant under CEQA.

B. Airport Compatibility

Indicator 5: *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.*

Indicator 6: *Be located within an airport land use plan or within two miles of a public airport or public use airport.*

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility El Centro. The site is located partially within Compatibility Zone "C" and "D," which is identified as having "limited risk" (Zone C) and "negligible risk" (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. Electrical substations and power lines are identified as "potentially compatible with restrictions" (Zone C), and "compatible" (Zone D). According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located under a military low-level training route, Visual Route (VR)-288. Military aircraft are authorized to fly at up to but not exceeding the speed of sound at altitudes as low as the published minimum while operating inside this route. There is frequent fixed wing and helicopter traffic along this route. As such, the project site may experience noise, vibrations, and interference from the over flight of aircraft.

On June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action would be consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers.

No private airstrips are located in the vicinity of the project site. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not expose people residing or working in the project area to excessive noise level from a private airstrip. No significant impact under CEQA is identified associated with airport compatibility.

C. Emergency Plans

Indicator 7: Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Implementation of Alternative 3-Reduced Solar Energy Facility Site will not result in a substantial impact associated with the emergency preparedness as the Alternative 3-Reduced Solar Energy Facility Site project site is not currently designated as an emergency shelter area, and the Alternative 3-Reduced Solar Energy Facility Site will not impede movement along any established or planned evacuation plan. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan, the "Imperial County Emergency Plan" addresses Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, the Alternative 3-Reduced Solar Energy Facility Site is the development of a solar facility and does not contain a residential component. Therefore, the Alternative 3-Reduced Solar Energy Facility Site will not result in an impact to the existing emergency plan for the County of Imperial and will not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. A less than significant impact under CEQA would occur.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Similar to the Proposed Action, overall maintenance of the facility under Alternative 3-Reduced Solar Energy Facility Site would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar facility is within the jurisdiction of the Imperial County Fire Department (ICFD). The facility will maintain the required volume of water required for fire fighting with an on-site fire storage tank located within 150 feet of the O&M building. On-site fire protection measures will include sprinkler systems and fire extinguishers.

During construction and operation of the Alternative 3-Reduced Solar Energy Facility Site, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils. However, the Alternative 3-Reduced Solar Energy Facility Site will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are “No Smoking” areas. With the fire protection measures discussed above, the Alternative 3-Reduced Solar Energy Facility Site will not expose people or structures to an increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of the Alternative 3-Reduced Solar Energy Facility Site.

Furthermore, no portion of the Alternative 3-Reduced Solar Energy Facility Site is characterized as an area of urban/wildland interfaces in the Imperial County Natural Hazard Disclosure (Fire) Map by the California Department of Forestry and Fire Protection (2000). Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and no impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line and proposed access road on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor and proposed access road would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line and proposed access road are located in a rural agricultural setting. The likelihood of humans to be exposed to hazards and safety issues such as exposure to electromagnetic fields and electric shock is considered low. Therefore, a less than significant impact under CEQA is identified for this issue area.

F. Intentionally Destructive Acts

The proposed facility presents an unlikely target for an intentionally destructive act and has an extremely low probability of attack. The safety, security, and monitoring measures discussed in Sections 2.1.3.7 and 2.1.3.8, provide preventative measures (fences, gates, lighting) and safeguards (cameras and gatehouse) for the facility that would restrict vehicle access and deter intentionally destructive acts.

Theft or opportunistic vandalism would be more likely than sabotage or terrorist acts. The results of any such acts could be expensive to repair, but no substantial impacts to continued electrical service would be anticipated. No significant environmental impacts under CEQA would be expected from physical damage to the project under Alternative 3-Reduced Solar Energy Facility Site or from loss of power delivery.

4.10.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on health, safety and hazardous materials/fire and fuels management from the Alternative 4-No Action/No Project Alternative.

4.10.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will result in impacts on human health and safety. Implementation of Mitigation Measures HM1 and HM2 will reduce these impacts to a level less than significant under CEQA.

The Alternative 4-No Action/No Project Alternative will not result in impacts on human health and safety. Therefore, no mitigation is required.

4.10.2 NEPA Environmental Assessment

4.10.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.10.1.1, the Proposed Action site is not located on a list of hazardous materials sites. In addition, testing results reported in the Phase II ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Potential hazardous materials currently on or near the solar energy facility portion of the project site include pesticides and herbicides. There is a potential for residual low-level concentrations of pesticides and herbicides to be present in soil and/or groundwater.

An abundant amount of trash and debris has been scattered throughout the solar energy facility site. Improper cleanup and disposal of this debris may directly harm the public and the environment. The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, trash discovered during project construction may directly

release hazardous materials into the environment. Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce the effects on the release of hazardous materials into the environment and reduce any potential impact.

No component of the Proposed Action would emit hazardous emissions. Implementation of the Proposed Action would not directly or indirectly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The improper use of herbicides would directly result in the routine transport, use or disposal of hazardous materials. Implementation of Mitigation Measure HM2 would reduce the effects of the routine transport, use, or disposal of hazardous materials on the solar energy facility site. In addition, during project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands. Implementation of Mitigation Measure B2 will reduce the effects of the route transport, use, or disposal of hazardous materials on the transmission line corridor and access road components of the Proposed Action within BLM lands.

Some of the hazardous materials used during the construction phase will include gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. In addition, limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. The hazardous materials that will be used during construction and operation of the Proposed Action may directly result in the routine transport, use or disposal of hazardous materials. Implementation of the Hazardous Material Management Program (HMMP) will reduce the effect related to the transport and use of hazardous materials during construction and operation of the Proposed Action.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. Furthermore, the very thin layer of CdTe incorporated into the PV or CPV modules is encapsulated between two protective sheets of glass and is not readily exposed to the environment. As a result, the risk of health or environmental exposure in fires, from accidental breakage, or from leaching is considered minimal.

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility, El Centro. The site is located partially within Compatibility Zone “C” and “D,” which is identified as having “limited risk” (Zone C) and “negligible risk” (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. The project is

located under a military low-level training route. As such, the project site may experience noise, vibrations, and interference from the overflight of aircraft.

Implementation of the Proposed Action would not directly or indirectly impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. Furthermore, the proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel.

Based on the analysis provided above under Section 4.10.1.1, during construction and operation of the Proposed Action, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. The Proposed Action will comply with requirements of the ICFD through the development and implementation of a Fire Protection Prevention Plan. With the fire protection measures discussed above, the Proposed Action will reduce the effect of exposure of people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Potential Impacts related to Electromagnetic Fields (EMF) and Radio Frequency Radiation Exposure

In a recent CPUC issued Decision D.06-01-042, the CPUC stated "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences." Reports from major research centers in other countries have come to similar conclusions that there is no compelling evidence of any health hazard from power lines and that if power lines do have any effect on human health, it is small. Because there are no conclusive studies on EMF impacts it is too speculative to evaluate. Furthermore, proposed transmission facilities are not located in proximity to areas that are highly habitable (e.g. residential areas), therefore, there would not be a large population exposed to such effects.

B. Alternative 1-Alternative Transmission Line Corridor

The Health, Safety, and Hazardous Materials/Fire and Fuels Management impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Health, Safety, and Hazardous Materials/Fire and Fuels Management impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The impacts to health and safety will be comparative to those of the Proposed Action with the exception that the footprint of the project will be reduced and the potential for impacts resulting from the construction of the additional acreage would be less than the Proposed Action.

Based on the analysis provided above under Section 4.10.1.4, the Alternative 3-Reduced Solar Energy Facility Site project site is not located on a list of hazardous materials sites. In addition, testing results reported in the Phase II ESA did not identify any hazardous materials or constituents onsite at levels above the applicable levels of concern.

Potential hazardous materials currently on or near the solar energy facility portion of the project site include pesticides and herbicides. There is a potential for residual low-level concentrations of pesticides and herbicides to be present in soil and/or groundwater.

An abundant amount of trash and debris has been scattered throughout the solar energy facility site. Improper cleanup and disposal of this debris may directly harm the public and the environment. The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, trash discovered during project construction may directly release hazardous materials into the environment. Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce the effects on the release of hazardous materials into the environment.

No component of the Alternative 3-Reduced Solar Energy Facility Site would emit hazardous emissions. Implementation of the Alternative 3-Reduced Solar Energy Facility Site would not directly or indirectly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The improper use of herbicides would directly result in the routine transport, use or disposal of hazardous materials. Implementation of Mitigation Measure HM2 would reduce the effects of the routine transport, use, or disposal of hazardous materials on the solar energy facility site. In addition, during project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands. Implementation of Mitigation Measure B2 will reduce the effects of the route transport, use, or disposal of hazardous materials on the transmission line corridor and access road components of the Alternative 3-Reduced Solar Energy Facility Site within BLM lands.

Some of the hazardous materials used during the construction phase will include gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. In addition, limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. The hazardous materials that will be used during construction and operation of the Alternative 3-Reduced Solar Energy Facility Site may directly result in the routine transport, use or disposal of hazardous materials. Implementation of the Hazardous Material Management Program (HMMP) will reduce the effect related to the transport and use of hazardous materials during construction and operation of the Alternative 3-Reduced Solar Energy Facility Site.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. Furthermore, the very thin layer of CdTe incorporated into PV or CPV modules is encapsulated between two protective sheets of glass and is not readily exposed to the environment. As a result, the risk of health or environmental exposure in fires, from accidental breakage, or from leaching is considered minimal.

The project site is located approximately six miles southwest of the nearest airport, Naval Air Facility, El Centro. The site is located partially within Compatibility Zone "C" and "D," which is identified as having "limited risk" (Zone C) and "negligible risk" (Zone D). These areas are also identified as having frequent noise intrusion and potential for annoyance from overflights; however, no hazard is identified. The project is located under a military low-level training route. As such, the project site may experience noise, vibrations, and interference from the overflight of aircraft.

Implementation of the Alternative 3-Reduced Solar Energy Facility Site would not directly or indirectly impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. Furthermore, the proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel.

Based on the analysis provided above under Section 4.10.1.4, during construction and operation of the Alternative 3-Reduced Solar Energy Facility Site, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. The Alternative 3-Reduced Solar Energy Facility Site will comply with requirements of the ICFD through the development and implementation of a Fire Protection Prevention Plan. With the fire protection measures discussed above, the Alternative 3-Reduced Solar Energy Facility Site will reduce the effect of exposure of people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.10.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on human health and safety from the Alternative 4-No Action/No Project Alternative.

4.10.3 Mitigation Measures and Residual Impacts

4.10.3.1 Proposed Action

HM1 Prior to the issuance of a grading permit of Notice to Proceed (NTP), all trash and debris within the project site (solar energy facility site, transmission line corridor, and access road) shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance

with this measure shall be verified by the BLM and Planning and Development Services Department before issuance of a NTP or grading permit.

HM2 Prior to the application of herbicides on the solar facility for weed management, a weed control plan shall be developed and approved by the BLM and reviewed and commented on by the County of Imperial Agricultural Commissioner. The weed control plan shall provide:

1) monitoring, preventative and management strategies for weed control during construction activities at the project;

2) control and management of weeds in areas temporarily disturbed during construction where native seed will aid in site revegetation; and,

3) a long-term strategy for weed control and management during the operation of the project.

4.10.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures HM1 and HM2 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.10.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measures HM1 and HM2 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.10.3.4 Alternative 3-Reduced Solar Energy Facility Site

Mitigation Measures HM1 and HM2 identified above for the Proposed Action will also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.10.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed under the Alternative 4-No Action/No Project Alternative, as no direct impacts on health, safety and hazardous materials/fire and fuels management would occur.

4.10.3.6 Impact Analysis of Mitigation Measures

<u>Impact Analysis of Mitigation Measure HM1:</u>

Implementation of Mitigation Measure HM1 would not result in a direct or indirect impact because prior to the issuance of a permit/NTP, all trash and debris within the project site will be properly disposed off-site, in accordance with current, local, state, and federal disposal regulations to ensure residual impacts do not result.

<u>Impact Analysis of Mitigation Measure HM2:</u>

Implementation of Mitigation Measure HM2 would not result in a direct or indirect impact because prior to the application of herbicides on the solar energy facility and transmission line for weed management, a weed control plan shall be approved by the BLM that will address any potential impacts and provide for subsequent mitigation and BMP's for the application of herbicides. Furthermore, all herbicides will be

applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and Federal agency for use on public lands will be used within or adjacent to the project site.

4.10.3.7 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

4.11 Hydrology and Water Quality

Information contained in this section is summarized from: 1) *Preliminary CEQA Level Drainage Study for Imperial Valley West Solar Farm* prepared by Tory R. Walker Engineering, Inc. (June 25, 2010, revised October 4, 2010); and, 2) *Preliminary Water Quality Report for Imperial Valley West Solar Farm* prepared by Tory R. Walker Engineering, Inc. (June 25, 2010, revised October 4, 2010). These documents are provided on the attached CD of Technical Appendices as Appendix H-1 and Appendix H-2 of this EIR/EA.

CEQA Significance Criteria

With regard to Hydrology and Water Quality, this EIR/EA analyzes whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or siltation on- or off-site;*

Indicator 2: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which will result in flooding on- or off-site;*

Indicator 3: *Create or contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows;*

Indicator 6: *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;*

Indicator 7: *Inundate by seiche, tsunami, or mudflow;*

Indicator 8: *Violate any water quality standards or waste discharge requirements;*

Indicator 9: *Otherwise substantially degrade water quality; and/or,*

Indicator 10: *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).*

NEPA Methodology

Evaluation of impacts of the Proposed Action on Hydrology and Water Quality was based on review of technical studies mentioned above. The CEQA indicators listed above provide a contextual relationship with which to analyze the impacts of the Proposed Action to the Existing Setting. The CEQA indicators provide the reader with a comparison of all the alternatives within a single context. Although all impacts to hydrology and water quality are considered for purposes of NEPA, the level of impact listed in the Indicator also helps establish the intensity of the impact with regard to the existing conditions provided in Section 3.0-Affected Environment. In addition, evaluation of the Proposed Action's impacts on Hydrology and Water Quality issues for NEPA purposes was framed using the above mentioned CEQA indicators, because those indicators capture the range of potential Hydrology and Water Quality impacts that could occur as a result of the Proposed Action and Alternatives.

4.11.1 CEQA Environmental Analysis

The following is the hydrology and water quality analysis for the solar energy facility portion of the Proposed Action. A detailed analysis is not provided for the transmission line corridor portion of the Proposed Action for the following reasons: (1) the proposed transmission line corridor will not require a change in current topography; (2) the proposed transmission line corridor would result in a minimal impervious footprint due to the minimal area required for transmission pole and tower footings; and (3) access roads will remain pervious. Due to the following reasons, this portion of the project site will remain for the most part, in its existing condition. Therefore, no significant hydrology and water quality impact under CEQA has been identified.

In addition, a detailed analysis is not provided for the access road portion of the Proposed Action, as this portion of the site is flat. The road will be maintained as a dirt access road or surfaced with Class II base materials. As such, the road will remain pervious. Prior to any construction, a Storm Water Pollution and Prevention plan will be submitted to Imperial County, the Regional Water Quality Control Board, and the BLM to ensure that on- and off-site erosion impacts do not rise to a level of significance under CEQA.

Water use from construction, operation and maintenance and decommissioning the proposed transmission line and access road is calculated and considered within the water use discussion for the solar energy facility.

4.11.1.1 Proposed Action

A. Hydrology/Drainage

Indicator 1: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or siltation on- or off-site.*

Indicator 2: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which will result in flooding on- or off-site.*

Indicator 3: *Create or contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

The solar energy facility portion of the Proposed Action includes approximately 132 concrete slab pads for the inverter units, a 5,000 square foot operations and maintenance building with associated parking lot of approximately 6,850 square feet, a 5,000 square foot water treatment building, and solar panels supported on posts (making a negligible impervious footprint). The project will utilize pervious surfaces for the service roads. The operations and maintenance building is located in the northwest corner of the portion of the solar facility site. A retention basin is proposed which will contain the runoff from the operations and maintenance facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Rain falling on the solar panels will run off at the drip-line at the lower end of the panels. This runoff will be dispersed as it flows across the pervious areas under the panels.

Drainage Analysis

The solar energy facility site was divided into three major subareas based on common discharge points to the Dixie Drain. The three major subareas are divided into 20 minor subareas based on the field breaks at the site, with nine minor subareas north of Interstate 8 and 11 minor subareas to the south. Figure 4.11-1 depicts these minor subareas. Hydrograph analyses were performed for the existing and proposed conditions at the site for reach of the major subareas. The 100-year peak flow rates and volumes are provided in Table 4.11-1.

TABLE 4.11-1
Summary of Areas and Hydrograph Results

Subarea	Area (ac)	Existing peak (cfs)	Existing Volume (ac-ft)	Proposed Peak (cfs)	Proposed Volume (ac-ft)	Delta Peak (cfs)	Delta Volume (ac-ft)
W1-W9	488	379	73.9	383	74.5	4.2	0.6
W10-W19	537	326	78.9	329	79.5	3.5	0.6
W20	98	62	12.7	63	12.8	0.8	0.1

Source: Tory R. Walker Engineering, Inc., 2010.

Based on the hydrograph results, the proposed improvements at the Proposed Action solar energy facility site will not result in significant increases in peak flow rates and volumes. As discussed in Appendix H-1 of this EIR/EA, in accordance with the IID Preliminary Drainage Master Plan (1995), the minor increases in peak flow rates and volumes do not constitute substantial increases. Increases on the Proposed Action project site are a result of the increase in imperviousness from the proposed transformer/inverter pads and operations facility. The combined impact of these facilities will increase the site imperviousness from 0.0 to 0.5 percent.

The proposed solar panels will have a less than significant impact under CEQA on peak flow rates and volumes because the water that drains off of the panels will continue to percolate onto the pervious ground surface below the panels. The runoff from the panels will form a drip line along the lower edge of the panels, but then will be dispersed as sheet flow as it travels across the flat topography of the site.

The proposed onsite drainage will be designed to replicate the existing condition. In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. There is evidence that existing berms and field breaks are being washed out by flood flows. As part of the Proposed Action, the breaches will be repaired and stabilized to hold runoff at many locations throughout the solar energy facility site. In addition, the culvert connections between the site and the IID drains will not be upsized.

The peak flow rates leaving the site are limited by the capacity of the existing culverts, assuming that berms are not overtopped allowing runoff to flow directly into the Westside Main Canal.

A third step towards replicating the existing condition is to provide designated detention basins at two locations where the solar energy facility site drains through existing culverts to the IID drains. Figure 4.11-1 depicts the location of the detention basins on the solar energy facility site. The detention basin located south of Interstate 8, has an estimated capacity of 45 acre-feet. This basin can hold the entire runoff volume of 33 acre-feet generated from the offsite area tributary to the north breach. The additional capacity will be used to attenuate onsite water. The detention basin north of Interstate 8 has an estimated capacity of 16 acre-feet.

A fourth step towards replicating existing condition drainage is a conceptual shallow storage design under some of the solar panels. The solar panels can be designed to accommodate up to six inches of ponding. At a typical site slope of 0.35 percent, a volume of approximately 0.4 acre-feet can be stored under each block of solar panels. Figure 4.11-2 depicts the conceptual under-panel detention design. For the solar energy facility site, with 122 proposed blocks of solar panels, the total available storage is 49 acre-feet. Because the field breaks are not being removed, this available storage is in addition to the existing condition storage. As such, the under-panel detention will have sufficient storage to replicate existing condition peak flow rates. Table 4.11-2 identifies the proposed drainage improvements for each of the major subareas.

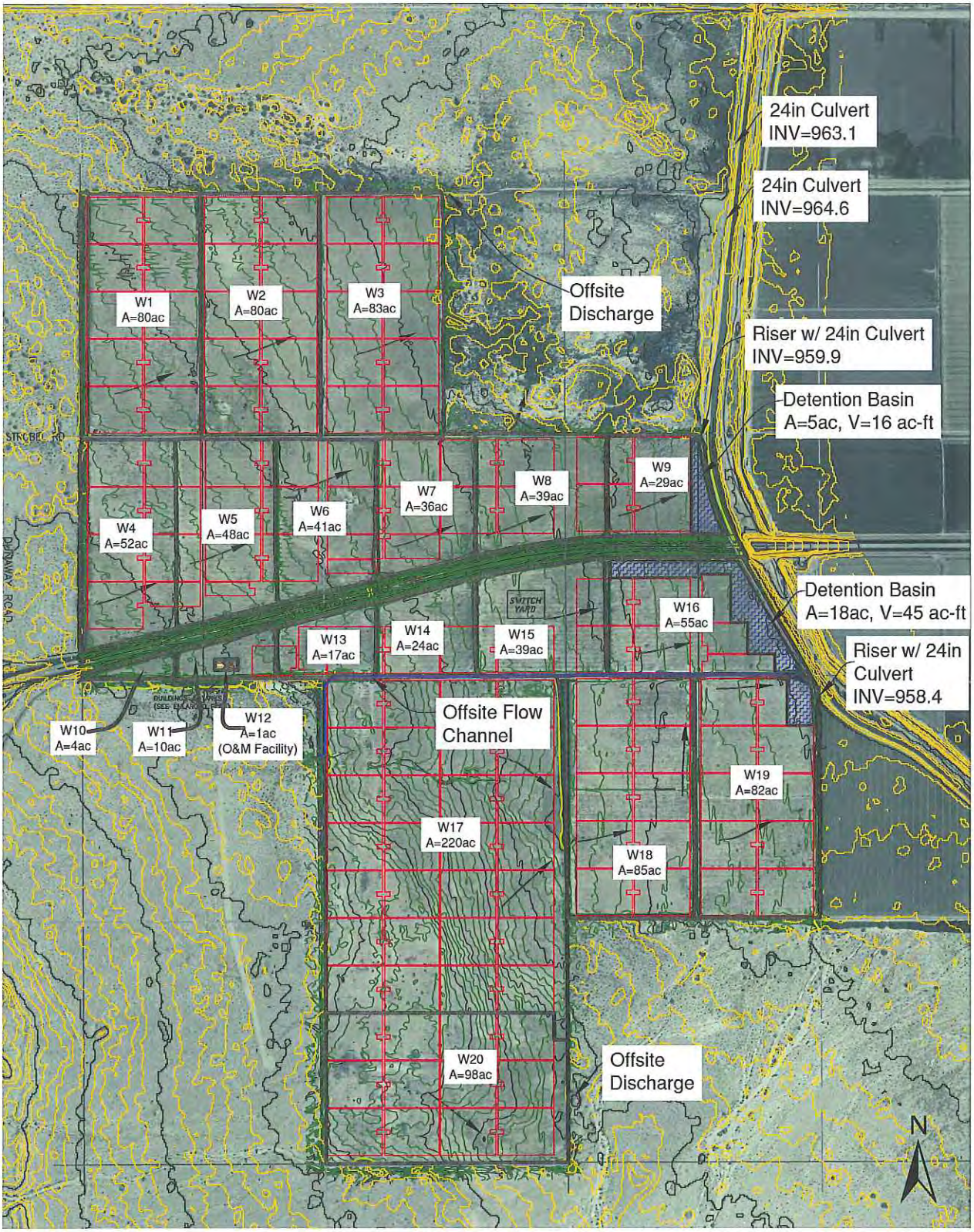
As described above, the onsite drainage will be designed to replicate the existing condition and points of discharge of the site. As such, the Proposed Action will not substantially alter the existing drainage of the site or area. Therefore, a less than significant impact under CEQA is identified for this issue area.

B. Flooding

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows.*

Indicator 6: *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.*



SOURCE: Tory R. Walker Engineering, Inc., 2010

10/20/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Hydrograph Analysis Minor Subareas and Proposed Drainage Infrastructure

FIGURE

4.11-1

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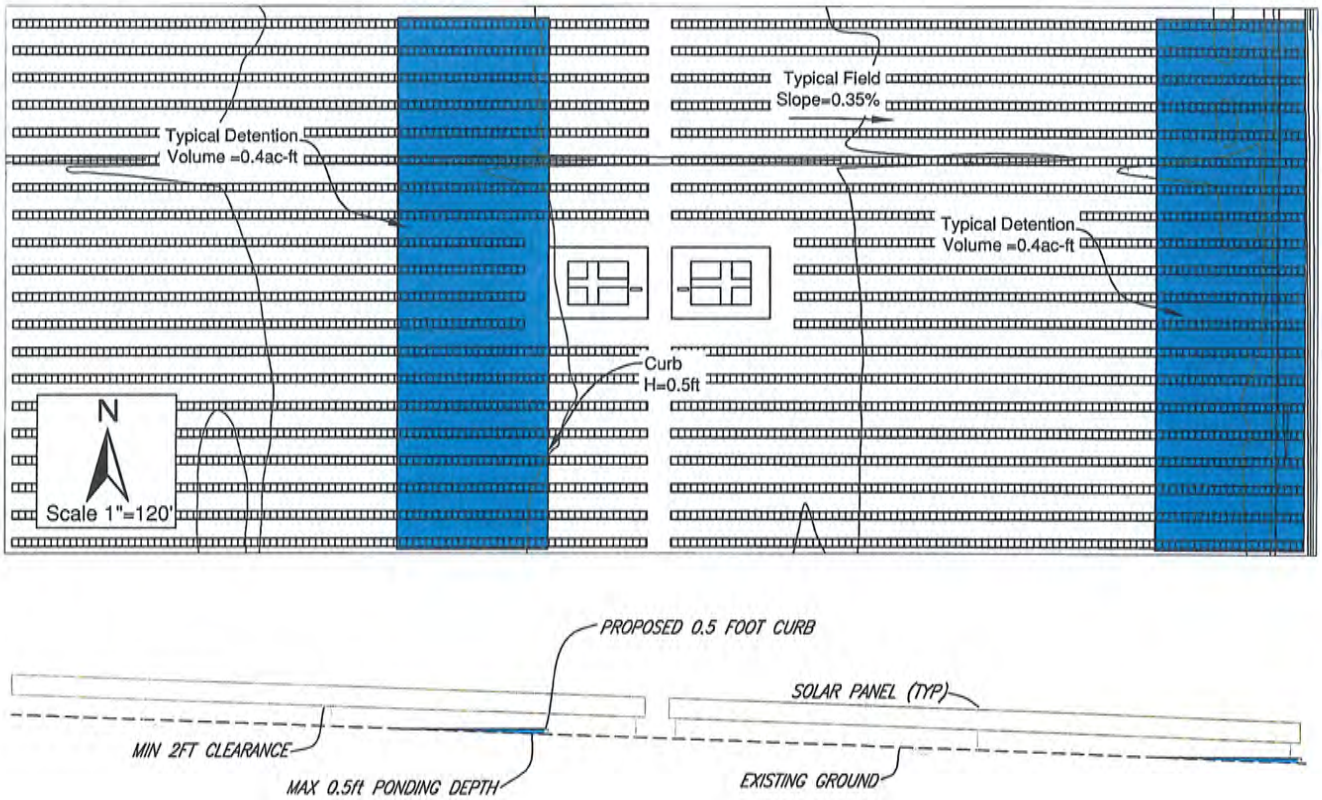

SOURCE: Tory R. Walker Engineering, Inc., 2010

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BRG CONSULTING, INC.

Imperial Solar Energy Center West

Under-Panel Detention Concept

FIGURE

4.11-2

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TABLE 4.11-2
Drainage Improvements

Subarea	Area (ac)	Discharge Method	Recommended Drainage Improvements
W1 to W3	242	Sheet flow to the north	Repair and stabilize field breaks. Provide under-panel storage to allow each subarea to drain without overtopping the field breaks.
W4 to W9	245	24-inch culvert to Dixie Drain	Use under-panel storage and a designated basin to allow site to drain through existing culvert to the Dixie Drain without overtopping the road and spilling into the Westside Main Canal.
W10 to W19	537	24-inch culvert to Dixie Drain	Route off-site runoff directly to the detention basin. Use under-panel storage and a designated basin to allow site to drain through existing culvert to the Dixie Drain without overtopping the road and spilling into the Westside Main Canal.
W20	98	Sheet flow to the south	Repair berm to prevent offsite flows from reaching site. Minimize grading and use under-panel storage to replicate existing condition storage.

Source: Tory R. Walker Engineering, Inc., 2010.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the solar energy facility site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. A portion of the solar energy facility site, south of Interstate 8 is located in Zone A, which is an area subject to one percent annual chance of a flood. The flooding source for this floodplain is the Yuha Wash. An existing degraded agricultural berm, most likely constructed from native soil, separates the wash from the project site, but site visit evidence from Tory R. Walker Engineering, Inc. indicates that the berm, though not breached, has been overtopped by flood flows. An engineered berm will be constructed on the existing agricultural berm to protect the site from flood flows in the Yuha Wash.

In compliance with Executive Order 11988, Floodplain Management and DOE's implementing regulations found at 10 CFR 1022, a notice of floodplain action was published in the Imperial Valley Press. A floodplain assessment was conducted for the proposed project and is incorporated into this EIR/EA. A floodplain statement of findings will be included in the DOE FONSI and will be transmitted to the same distribution list as the Draft EIR/EA.

Based on the floodplain analysis, the flow rate over the berm for a 100-year storm was 71 cubic feet per second (cfs). With the relatively flat topography of the solar facility site, the 71 cfs would immediately spread out to a flow depth of less than one foot. After the engineered berm is constructed, all of the 100-year runoff in the Yuha Wash will be routed easterly to an existing weir constructed by IID to receive Yuha Wash flows into the Westside Main Canal. The Proposed Action will not increase floodplain elevations. Furthermore, the Proposed Action does not contain a residential component. The Proposed Action will not place housing within a 100-year flood hazard area or impede flood flows; therefore, a less than significant impact under CEQA is identified for the flooding issue area.

Some small berms will be reinforced or replaced with engineered berms, but none of these would expose people or structures to a significant risk. Furthermore, the Proposed Action does not have or include any levees or dams. Therefore, no significant impact under CEQA is identified for this issue area.

C. Seiche, Tsunami, Mudflow

Indicator 7: Inundate by seiche, tsunami, or mudflow.

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean. In addition, the project site is relatively flat and level. Therefore, there is no potential for the project site to be inundated by seiches, tsunamis, or mudflows. Thus, no significant impact under CEQA is identified for this issue.

D. Water Quality

Indicator 8: Violate any water quality standards or waste discharge requirements.

Indicator 9: Otherwise substantially degrade water quality.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the Colorado River Regional Water Quality Control Board, would reduce water quality impacts below a level of significance under CEQA. Implementation of Mitigation Measure HWQ1 will reduce this impact to a level less than significant under CEQA. Mitigation Measure HWQ1 requires the approval and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

The Proposed Action will utilize Site Design, Source Control, and Treatment Control BMPs on the project site. These BMPs are described below and in further detail in Appendix H-2 of this EIR/EA.

Site Design Strategies and BMPs

The following are three strategies incorporated into the Proposed Action for managing runoff from buildings and paving:

- Optimize the Site Layout - The very nature of the proposed land use optimizes the site layout thus limiting the development envelope. The majority of the existing drainage will be untouched by the construction.
- Use Pervious Surfaces - Internal Service Roads will use a pervious surface.
- Disperse Runoff - The pervious surfaces will drain to detention areas within the site.

Source Control BMPs

It is possible that the following pollutants could be generated at the solar energy facility site: Sediment, Heavy Metals, Trash and Debris, and Oil and Grease. The site also has the potential to generate Nutrients, Organic Compounds, Oxygen Demanding Substances, and Pesticides. Based on these anticipated pollutants and operational activities at the solar energy facility site, the Source Control BMPs to be installed and/or implemented onsite are:

- Trash Storage
- Integrated Pest Management
- Efficient Irrigation and Landscape Design
- Property Owner Educational Materials Regarding Source Control Management

Treatment Control BMPs

Structural Treatment (treatment control) BMPs are engineered, designed, and constructed to remove pollutants from urban runoff by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption, or any other physical, biological, or chemical process.

The structural treatment BMPs for the solar energy facility site portion of the Proposed Action will include extended detention basins and under-panel detention. Detention basins are passive systems designed to detain the stormwater runoff from a water quality design storm for some minimum time to allow particles and associated pollutants to settle. They also provide flood control by including additional flood detention storage. The solar energy facility site is anticipated to generate sediment similar to the pre-developed condition. In addition, it has the potential to generate trash. As shown in Table 3 of Appendix H-2 of this EIR/EA, the proposed detention basin will aid in the removal of such pollutants due to its high removal effectiveness for sediment, nutrients, metals, bacteria, oil and grease, and organics.

E. Groundwater

Indicator 10: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the project does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The IID Water Department delivers up to 3.1 million-acre feet of IID's Colorado River entitlement annually to nearly one-half million irrigated acres (Imperial Irrigation District, 2010). The site was previously used for agricultural production; however it is currently vacant and does not use water. Water will be needed for domestic use (the office), solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water for employees operating the facility. Approximately 200 acre feet of water will be used to decommission the facility. A majority of this water use is related to dust suppression activities and the grading activities required to restore the facility to an agricultural use. When compared to the 15 acre feet per acre per year of water required for agricultural use, the 200 acre feet required to re-establish agricultural use for the entire site is minimal. The Applicant for this project currently has an agreement with IID, for IID to continue to service the site with water. As such, the solar energy facility portion of the Proposed Action will not have a substantial impact associated with water infiltration and groundwater levels due to a minor increase in imperviousness (0% to 0.5%). Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to jurisdictional resources is anticipated from construction of the Proposed Action (solar energy facility site, Proposed Action Transmission Line Corridor, and access road). Approximately 0.5 acres of ACE jurisdictional resources and 7.2 acres of CDFG jurisdictional resources would be impacted during construction of the Proposed Action. However, with the implementation of Mitigation Measure B8, this impact will be reduced to a level less than significant. Mitigation Measure B8 would mitigate the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources for a full analysis of the Proposed Action's impact to jurisdictional waters.

4.11.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Hydrology/Drainage

Indicator 1: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or siltation on- or off-site.

Indicator 2: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which will result in flooding on- or off-site.

Indicator 3: Create or contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Similar to the Proposed Action, the solar energy facility portion of the Alternative 1-Alternative Transmission Line Corridor includes approximately 132 concrete slab pads for the inverter units, a 5,000 square foot operations and maintenance building with associated parking lot of approximately 6,850 square feet, a 5,000 square foot water treatment building, and solar panels supported on posts (making a negligible impervious footprint). The project will utilize pervious surfaces for the service roads. The operations and maintenance building is located in the northwest corner of the portion of the solar facility site. A retention basin is proposed which will contain the runoff from the operations and maintenance facility.
The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Rain falling on the solar panels will run off at the drip-line at the lower end of the panels. This runoff will be dispersed as it flows across the pervious areas under the panels.

As noted in Section 4.11.1, the transmission line corridor will not change the current topography, will have a minimal impervious footprint, and access roads will remain pervious. The Alternative 1-Alternative Transmission Line Corridor will similarly not result in any significant hydrology and water quality impact under CEQA. Therefore, as with the Proposed Action, the discussion below focuses on the solar energy facility portion of the Alternative 1-Alternative Transmission Line Corridor.

In addition, a detailed analysis is not provided for the access road portion of the Alternative 1-Alternative Transmission Line Corridor, as this portion of the site is flat. The road will be maintained as a dirt access road or surfaced with Class II base materials. As such, the road will remain pervious. Prior to any construction, a Storm Water Pollution and Prevention plan will be submitted to Imperial County, the Regional Water Quality Control Board, and the BLM to ensure that on- and off-site erosion impacts do not rise to a level of significance under CEQA.

Drainage Analysis
Similar to the Proposed Action, the proposed improvements at the Alternative 1-Alternative Transmission Line Corridor solar energy facility site will not result in significant increases in peak flow rates and volumes. As discussed in Appendix H-1 of this EIR/EA, in accordance with the IID Preliminary Drainage Master Plan (1995), the minor increases in peak flow rates and volumes do not constitute substantial increases. Increases on the

Alternative 1-Alternative Transmission Line Corridor solar energy facility site are a result of the increase in imperviousness from the proposed transformer/inverter pads and operations facility. The combined impact of these facilities will increase the site imperviousness from 0.0 to 0.5 percent.

The proposed solar panels will have a less than significant impact on peak flow rates and volumes because the water that drains off of the panels will continue to percolate onto the pervious ground surface below the panels. The runoff from the panels will form a drip line along the lower edge of the panels, but then will be dispersed as sheet flow as it travels across the flat topography of the site.

Similar to the Proposed Action, the proposed onsite drainage will be designed to replicate the existing condition on the solar energy facility portion of the Alternative 1-Alternative Transmission Line Corridor project site. In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. The breaches will be repaired and stabilized to hold runoff at many locations throughout the solar energy facility site. In addition, the culvert connections between the site and the IID drains will not be upsized. The peak flow rates leaving the site are limited by the capacity of the existing culverts, assuming that berms are not overtopped allowing runoff to flow directly into the Westside Main Canal.

A third step towards replicating the existing condition is to provide designated detention basins at two locations where the solar energy facility site drains through existing culverts to the IID drains. The detention basin located south of Interstate 8, has an estimated capacity of 45 acre-feet. This basin can hold the entire runoff volume of 33 acre-feet generated from the offsite area tributary to the north breach. The additional capacity will be used to attenuate onsite water. The detention basin north of Interstate 8 has an estimated capacity of 16 acre-feet.

A fourth step towards replicating existing condition drainage is a conceptual shallow storage design under some of the solar panels. The solar panels can be designed to accommodate up to six inches of ponding. For the Alternative 1-Alternative Transmission Line Corridor solar energy facility site, with 122 proposed blocks of solar panels, the total available storage is 49 acre-feet. Because the field breaks are not being removed, this available storage is in addition to the existing condition storage. As such, the under-panel detention will have sufficient storage to replicate existing condition peak flow rates.

The onsite drainage will be designed to replicate the existing condition and points of discharge of the site. As such, the Alternative 1-Alternative Transmission Line Corridor will not substantially alter the existing drainage of the site or area. Therefore, a less than significant impact under CEQA is identified for this issue area.

B. Flooding

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows.*

Indicator 6: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the solar energy facility site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. A portion of the solar energy facility site, south of Interstate 8 is located in Zone A, which is an area subject to one percent annual chance of a flood. The flooding source for this floodplain is the Yuha Wash. An existing degraded agricultural berm, most likely constructed from native soil, separates the wash from the project site, but site visit evidence from Tory R. Walker Engineering, Inc. indicates that the berm, though not breached, has been overtopped by flood flows. An engineered berm will be constructed on the existing agricultural berm to protect the site from flood flows in the Yuha Wash.

Based on the floodplain analysis, the flow rate over the berm for a 100-year storm would immediately spread out to a flow depth of less than one foot. After the engineered berm is constructed, all of the 100-year runoff in the Yuha Wash will be routed easterly to an existing weir constructed by IID to receive Yuha Wash flows into the Westside Main Canal. The Alternative 1-Alternative Transmission Line Corridor will not increase floodplain elevations. Furthermore, the Alternative 1-Alternative Transmission Line Corridor does not contain a residential component. The Alternative 1-Alternative Transmission Line Corridor will not place housing within a 100-year flood hazard area or impede flood flows; therefore, a less than significant impact under CEQA is identified for the flooding issue area.

Some small berms will be reinforced or replaced with engineered berms, but none of these would expose people or structures to a significant risk. Furthermore, the Alternative 1-Alternative Transmission Line Corridor does not have or include any levees or dams. Therefore, no significant impact under CEQA is identified for this issue area.

C. Seiche, Tsunami, Mudflow

Indicator 7: Inundate by seiche, tsunami, or mudflow.

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean. In addition, the project site is relatively flat and level. Therefore, there is no potential for the project site to be inundated by seiches, tsunamis, or mudflows. Thus, no significant impact under CEQA is identified for this issue.

D. Water Quality

Indicator 8: Violate any water quality standards or waste discharge requirements.

Indicator 9: Otherwise substantially degrade water quality.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations

concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the Colorado River Regional Water Quality Control Board, would reduce water quality impacts below a level of significance under CEQA. Implementation of Mitigation Measure HWQ1 will reduce this impact to a level less than significant under CEQA. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

Similar to the Proposed Action, the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor will utilize Site Design, Source Control, and Treatment Control BMPs on the project site. These BMPs are described below and in further detail in Appendix H-2 of this EIR/EA.

Site Design Strategies and BMPs

The following are three strategies incorporated into the Alternative 1-Alternative Transmission Line Corridor for managing runoff from buildings and paving:

- Optimize the Site Layout- The very nature of the proposed land use optimizes the site layout thus limiting the development envelope. The majority of the existing drainage will be untouched by the construction.
- Use Pervious Surfaces- Service Roads will use a pervious surface.
- Disperse Runoff- The pervious surfaces will drain to detention areas within the site.

Source Control BMPs

It is possible that the following pollutants could be generated at the solar energy facility site: Sediment, Heavy Metals, Trash and Debris, and Oil and Grease. The site also has the potential to generate Nutrients, Organic Compounds, Oxygen Demanding Substances, and Pesticides. Based on these anticipated pollutants and operational activities at the solar energy facility site, the Source Control BMPs to be installed and/or implemented onsite are:

- Trash Storage
- Integrated Pest Management
- Efficient Irrigation and Landscape Design
- Property Owner Educational Materials Regarding Source Control Management

Treatment Control BMPs

Structural Treatment (treatment control) BMPs are engineered, designed, and constructed to remove pollutants from urban runoff by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption, or any other physical, biological, or chemical process.

The structural treatment BMPs for the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor will include extended detention basins and under-panel detention. Detention

basins are passive systems designed to detain the stormwater runoff from a water quality design storm for some minimum time to allow particles and associated pollutants to settle. They also provide flood control by including additional flood detention storage. The solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor is anticipated to generate sediment similar to the pre-developed condition. In addition, it has the potential to generate trash. The proposed detention basin will aid in the removal of such pollutants due to its high removal effectiveness for sediment, nutrients, metals, bacteria, oil and grease, and organics.

E. Groundwater

Indicator 10: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The IID Water Department delivers up to 3.1 million-acre feet of IID's Colorado River entitlement annually to nearly one-half million irrigated acres (Imperial Irrigation District, 2010). The site was previously used for agricultural production; however it is currently vacant and does not use water. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. Approximately 200 acre feet of water will be used to decommission the facility. A majority of this water use is related to dust suppression activities and the grading activities required to restore the facility to an agricultural use. When compared to the fifteen acre feet per acre per year of water required for agricultural use, the 200 acre feet required to re-establish agricultural use for the entire site is minimal. As such, the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor will not have a substantial impact associated with water infiltration and groundwater levels due to a minor increase (0% to 0.5%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to jurisdictional resources under CEQA is anticipated from construction of the Alternative 1-Alternative Transmission Line Corridor (solar energy facility site and Alternative 1 Transmission Line Corridor). Approximately 0.5 acres of ACE jurisdictional resources and 7.2 acres of CDFG jurisdictional resources would be impacted during construction of the Alternative 1-Alternative Transmission Line Corridor.

However, with the implementation of Mitigation Measure B8, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B9 would mitigate the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources for a full analysis of the Alternative 1-Alternative Transmission Line Corridor's impact to jurisdictional waters.

4.11.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Hydrology/Drainage

Indicator 1: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or siltation on- or off-site.*

Indicator 2: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which will result in flooding on- or off-site.*

Indicator 3: *Create or contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

Similar to the Proposed Action, the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor includes approximately 132 concrete slab pads for the inverter units, a 5,000 square foot operations and maintenance building with associated parking lot of approximately 6,850 square feet, a 5,000 square foot water treatment building, and solar panels supported on posts (making a negligible impervious footprint). The project will utilize pervious surfaces for the service roads. The operations and maintenance building is located in the northwest corner of the portion of the solar facility site. A retention basin is proposed which will contain the runoff from the operations and maintenance facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Rain falling on the solar panels will run off at the drip-line at the lower end of the panels. This runoff will be dispersed as it flows across the pervious areas under the panels.

As noted in Section 4.11.1, the transmission line corridor will not change the current topography, will have a minimal impervious footprint, and access roads will remain pervious. The Alternative 2-Alternative Transmission Line Corridor will similarly not result in any significant hydrology and water quality impact under CEQA. Therefore, as with the Proposed Action, the discussion below focuses on the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor.

In addition, a detailed analysis is not provided for the access road portion of the Alternative 2-Alternative Transmission Line Corridor, as this portion of the site is flat. The road will be maintained as a dirt access road or surfaced with Class II base materials. As such, the road will remain pervious. Prior to any construction, a Storm Water Pollution and Prevention plan will be submitted to Imperial County, the Regional Water Quality

Control Board, and the BLM to ensure that on- and off-site erosion impacts do not rise to a level of significance under CEQA.

Drainage Analysis

Similar to the Proposed Action, the proposed improvements at the Alternative 2-Alternative Transmission Line Corridor solar energy facility site will not result in significant increases in peak flow rates and volumes. As discussed in Appendix H-1 of this EIR/EA, in accordance with the IID Preliminary Drainage Master Plan (1995), the minor increases in peak flow rates and volumes do not constitute substantial increases. Increases on the Alternative 2-Alternative Transmission Line Corridor solar energy facility site are a result of the increase in imperviousness from the proposed transformer/inverter pads and operations facility. The combined impact of these facilities will increase the site imperviousness from 0.0 to 0.5 percent.

The proposed solar panels will have a less than significant impact on peak flow rates and volumes because the water that drains off of the panels will continue to percolate onto the pervious ground surface below the panels. The runoff from the panels will form a drip line along the lower edge of the panels, but then will be dispersed as sheet flow as it travels across the flat topography of the site.

Similar to the Proposed Action, the proposed onsite drainage will be designed to replicate the existing condition on the Alternative 2-Alternative Transmission Line Corridor solar energy facility site. In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. The breaches will be repaired and stabilized to hold runoff at many locations throughout the site. In addition, the culvert connections between the site and the IID drains will not be upsized. The peak flow rates leaving the site are limited by the capacity of the existing culverts, assuming that berms are not overtopped allowing runoff to flow directly into the Westside Main Canal.

A third step towards replicating the existing condition is to provide designated detention basins at two locations where the solar energy facility site drains through existing culverts to the IID drains. The detention basin located south of Interstate 8, has an estimated capacity of 45 acre-feet. This basin can hold the entire runoff volume of 33 acre-feet generated from the offsite area tributary to the north breach. The additional capacity will be used to attenuate onsite water. The detention basin north of Interstate 8 has an estimated capacity of 16 acre-feet.

A fourth step towards replicating existing condition drainage is a conceptual shallow storage design under some of the solar panels. The solar panels can be designed to accommodate up to six inches of ponding. For the Alternative 2-Alternative Transmission Line Corridor solar energy facility site, with 122 proposed blocks of solar panels, the total available storage is 49 acre-feet. Because the field breaks are not being removed, this available storage is in addition to the existing condition storage. As such, the under-panel detention will have sufficient storage to replicate existing condition peak flow rates.

The onsite drainage will be designed to replicate the existing condition and points of discharge of the site. As such, the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor will not

substantially alter the existing drainage of the site or area. Therefore, a less than significant impact under CEQA is identified for this issue area.

B. Flooding

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows.*

Indicator 6: *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.*

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the solar energy facility site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. A portion of the solar energy facility site, south of Interstate 8 is located in Zone A, which is an area subject to one percent annual chance of a flood. The flooding source for this floodplain is the Yuha Wash. An existing degraded agricultural berm, most likely constructed from native soil, separates the wash from the project site, but site visit evidence from Tory R. Walker Engineering, Inc. indicates that the berm, though not breached, has been overtopped by flood flows. An engineered berm will be constructed on the existing agricultural berm to protect the site from flood flows in the Yuha Wash.

Based on the floodplain analysis, the flow rate over the berm for a 100-year storm would immediately spread out to a flow depth of less than one foot. After the engineered berm is constructed, all of the 100-year runoff in the Yuha Wash will be routed easterly to an existing weir constructed by IID to receive Yuha Wash flows into the Westside Main Canal. The Alternative 2-Alternative Transmission Line Corridor will not increase floodplain elevations. Furthermore, the Alternative 2-Alternative Transmission Line Corridor does not contain a residential component. The Alternative 2-Alternative Transmission Line Corridor will not place housing within a 100-year flood hazard area or impede flood flows; therefore, a less than significant impact under CEQA is identified for the flooding issue area.

Some small berms will be reinforced or replaced with engineered berms, but none of these would expose people or structures to a significant risk. Furthermore, the Alternative 2-Alternative Transmission Line Corridor does not have or include any levees or dams. Therefore, no significant impact under CEQA is identified for this issue area.

C. Seiche, Tsunami, Mudflow

Indicator 7: *Inundate by seiche, tsunami, or mudflow.*

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean. In addition, the project site is relatively flat and level. Therefore, there is

no potential for the project site to be inundated by seiches, tsunamis, or mudflows. Thus, no significant impact under CEQA is identified for this issue.

D. Water Quality

Indicator 8: Violate any water quality standards or waste discharge requirements.

Indicator 9: Otherwise substantially degrade water quality.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the Colorado River Regional Water Quality Control Board, would reduce water quality impacts below a level of significance under CEQA. Implementation of Mitigation Measure HWQ1 will reduce this impact to a level less than significant under CEQA. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

Similar to the Proposed Action, the solar energy facility site portion of the Alternative 2-Alternative Transmission Line Corridor will utilize Site Design, Source Control, and Treatment Control BMPs on the project site. These BMPs are described below and in further detail in Appendix H-2 of this EIR/EA.

Site Design Strategies and BMPs

The following are three strategies incorporated into the Alternative 2-Alternative Transmission Line Corridor for managing runoff from buildings and paving:

- Optimize the Site Layout- The very nature of the proposed land use optimizes the site layout thus limiting the development envelope. The majority of the existing drainage will be untouched by the construction.
- Use Pervious Surfaces- Service Roads will use a pervious surface.
- Disperse Runoff- The pervious surfaces will drain to detention areas within the site.

Source Control BMPs

It is possible that the following pollutants could be generated at the solar energy facility site: Sediment, Heavy Metals, Trash and Debris, and Oil and Grease. The site also has the potential to generate Nutrients, Organic Compounds, Oxygen Demanding Substances, and Pesticides. Based on these anticipated pollutants and operational activities at the solar energy facility site, the Source Control BMPs to be installed and/or implemented onsite are:

- Trash Storage
- Integrated Pest Management

- Efficient Irrigation and Landscape Design
- Property Owner Educational Materials Regarding Source Control Management

Treatment Control BMPs

Structural Treatment (treatment control) BMPs are engineered, designed, and constructed to remove pollutants from urban runoff by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption, or any other physical, biological, or chemical process.

The structural treatment BMPs for the solar energy facility site portion of the Alternative 2-Alternative Transmission Line Corridor will include extended detention basins and under-panel detention. Detention basins are passive systems designed to detain the stormwater runoff from a water quality design storm for some minimum time to allow particles and associated pollutants to settle. They also provide flood control by including additional flood detention storage. The solar energy facility site portion of the Alternative 2-Alternative Transmission Line Corridor is anticipated to generate sediment similar to the pre-developed condition. In addition, it has the potential to generate trash. The proposed detention basin will aid in the removal of such pollutants due to its high removal effectiveness for sediment, nutrients, metals, bacteria, oil and grease, and organics.

E. Groundwater

Indicator 10: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the solar energy facility site portion of the Alternative 2-Alternative Transmission Line Corridor does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The IID Water Department delivers up to 3.1 million-acre feet of IID's Colorado River entitlement annually to nearly one-half million irrigated acres (Imperial Irrigation District, 2010). The site was previously used for agricultural production; however it is currently vacant and does not use water. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. Approximately 200 acre feet of water will be used to decommission the facility. A majority of this water use is related to dust suppression activities and the grading activities required to restore the facility to an agricultural use. When compared to the fifteen acre feet per acre per year of water required for agricultural use, the 200 acre feet required to re-establish

agricultural use for the entire site is minimal. _ As such, the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor will not have a substantial impact associated with water infiltration and groundwater levels due to a minor increase (0% to 0.5%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to jurisdictional resources under CEQA is anticipated from construction of the Alternative 2-Alternative Transmission Line Corridor (solar energy facility site and Alternative 2 Transmission Line Corridor). Approximately 1.1 acres of ACE jurisdictional resources and 7.7 acres of CDFG jurisdictional resources would be impacted during construction of the Alternative 2-Alternative Transmission Line Corridor. However, with the implementation of Mitigation Measure B13, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B13 would mitigate the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio. See Section 4.12 Biological Resources for a full analysis of the Alternative 2-Alternative Transmission Line Corridor's impact to jurisdictional waters.

4.11.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Hydrology/Drainage

Indicator 1: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which will result in substantial erosion or siltation on- or off-site.*

Indicator 2: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which will result in flooding on or off-site.*

Indicator 3: *Create or contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

Similar to the Proposed Action, the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site includes approximately 132 concrete slab pads for the inverter units, a 5,000 square foot operations and maintenance building with associated parking lot of approximately 6,850 square feet, a 5,000 square foot water treatment building, and solar panels supported on posts (making a negligible impervious footprint). The project will utilize pervious surfaces for the service roads. The operations and maintenance building is located in the northwest corner of the portion of the solar facility site. A retention basin is proposed which will contain the runoff from the operations and maintenance facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Rain falling on the solar panels will run off at the drip-line at the lower end of the panels. This runoff will be dispersed as it flows across the pervious areas under the panels.

As noted in Section 4.11.1, the transmission line corridor will not change the current topography, will have a minimal impervious footprint, and access roads will remain pervious. The Alternative 3-Reduced Solar Energy Facility Site will similarly not result in any significant hydrology and water quality impact under CEQA. Therefore, as with the Proposed Action, the discussion below focuses on the solar energy facility portion o f the Alternative 3-Reduced Solar Energy Facility Site.

In addition, a detailed analysis is not provided for the access road portion of the Alternative 3-Reduced Solar Energy Facility Site, as this portion of the site is flat. The road will be maintained as a dirt access road or surfaced with Class II base materials. As such, the road will remain pervious. Prior to any construction, a Storm Water Pollution and Prevention plan will be submitted to Imperial County, the Regional Water Quality Control Board, and the BLM to ensure that on- and off-site erosion impacts do not rise to a level of significance under CEQA.

Drainage Analysis

Similar to the Proposed Action, the proposed improvements at the solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site will not result in significant increases in peak flow rates and volumes. As discussed in Appendix H-1 of this EIR/EA, in accordance with the IID Preliminary Drainage Master Plan (1995), the minor increases in peak flow rates and volumes do not constitute substantial increases. Increases on the solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site are a result of the increase in imperviousness from the proposed transformer/inverter pads and operations facility. The combined impact of these facilities will increase the site imperviousness from 0.0 to 0.5 percent.

The proposed solar panels will have a less than significant impact on peak flow rates and volumes because the water that drains off of the panels will continue to percolate onto the pervious ground surface below the panels. The runoff from the panels will form a drip line along the lower edge of the panels, but then will be dispersed as sheet flow as it travels across the flat topography of the site.

Similar to the Proposed Action, the proposed onsite drainage will be designed to replicate the existing condition on the solar energy facility portion of Alternative 3-Reduced Solar Energy Facility Site. In the existing condition, runoff ponds throughout the solar energy facility site and then is drained to the IID drains through culverts and tile drains. The breaches will be repaired and stabilized to hold runoff at many locations throughout the site. In addition, the culvert connections between the site and the IID drains will not be upsized. The peak flow rates leaving the site are limited by the capacity of the existing culverts, assuming that berms are not overtopped allowing runoff to flow directly into the Westside Main Canal.

A third step towards replicating the existing condition is to provide designated detention basins at two locations where the solar energy facility site drains through existing culverts to the IID drains. The detention basin located south of Interstate 8, has an estimated capacity of 45 acre-feet. This basin can hold the entire runoff volume of 33 acre-feet generated from the offsite area tributary to the north breach. The additional capacity will be used to attenuate onsite water. The detention basin north of Interstate 8 has an estimated capacity of 16 acre-feet.

A fourth step towards replicating existing condition drainage is a conceptual shallow storage design under some of the solar panels. The solar panels can be designed to accommodate up to six inches of ponding. For the Alternative 3-Reduced Solar Energy Facility Site project site, with 122 proposed blocks of solar panels, the total available storage is 49 acre-feet. Because the field breaks are not being removed, this available storage is in addition to the existing condition storage. As such, the under-panel detention will have sufficient storage to replicate existing condition peak flow rates.

The onsite drainage will be designed to replicate the existing condition and points of discharge of the site. As such, the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site will not substantially alter the existing drainage of the site or area. Therefore, a less than significant impact under CEQA is identified for this issue area.

B. Flooding

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows.*

Indicator 6: *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.*

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the solar energy facility site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. A portion of the solar energy facility site, south of Interstate 8 is located in Zone A, which is an area subject to one percent annual chance of a flood. The flooding source for this floodplain is the Yuha Wash. An existing degraded agricultural berm, most likely constructed from native soil, separates the wash from the project site, but site visit evidence from Tory R. Walker Engineering, Inc. indicates that the berm, though not breached, has been overtopped by flood flows. An engineered berm will be constructed on the existing agricultural berm to protect the site from flood flows in the Yuha Wash.

Based on the floodplain analysis, the flow rate over the berm for a 100-year storm would immediately spread out to a flow depth of less than one foot. After the engineered berm is constructed, all of the 100-year runoff in the Yuha Wash will be routed easterly to an existing weir constructed by IID to receive Yuha Wash flows into the Westside Main Canal. The Alternative 3-Reduced Solar Energy Facility Site will not increase floodplain elevations. Furthermore, the Alternative 3-Reduced Solar Energy Facility Site does not contain a residential component. The Alternative 3-Reduced Solar Energy Facility Site will not place housing within a 100-year flood hazard area or impede flood flows; therefore, a less than significant impact under CEQA is identified for the flooding issue area.

Some small berms will be reinforced or replaced with engineered berms, but none of these would expose people or structures to a significant risk. Furthermore, the Alternative 3-Reduced Solar Energy Facility Site does

not have or include any levees or dams. Therefore, no significant impact under CEQA is identified for this issue area.

C. Seiche, Tsunami, Mudflow

Indicator 7: Inundate by seiche, tsunami, or mudflow.

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean. In addition, the project site is relatively flat and level. Therefore, there is no potential for the project site to be inundated by seiches, tsunamis, or mudflows. Thus, no significant impact under CEQA is identified for this issue.

D. Water Quality

Indicator 8: Violate any water quality standards or waste discharge requirements.

Indicator 9: Otherwise substantially degrade water quality.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the Colorado River Regional Water Quality Control Board, would reduce water quality impacts below a level of significance under CEQA. Implementation of Mitigation Measure HWQ1 will reduce this impact to a level less than significant. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

Similar to the Proposed Action, the solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site will utilize Site Design, Source Control, and Treatment Control BMPs on the project site. These BMPs are described below and in further detail in Appendix H-2 of this EIR/EA.

Site Design Strategies and BMPs

The following are three strategies incorporated into the Alternative 3-Reduced Solar Energy Facility Site for managing runoff from buildings and paving:

- Optimize the Site Layout- The very nature of the proposed land use optimizes the site layout thus limiting the development envelope. The majority of the existing drainage will be untouched by the construction.
- Use Pervious Surfaces- Service Roads will use a pervious surface.
- Disperse Runoff- The pervious surfaces will drain to detention areas within the site.

Source Control BMPs

It is possible that the following pollutants could be generated at the solar energy facility site: Sediment, Heavy Metals, Trash and Debris, and Oil and Grease. The site also has the potential to generate Nutrients, Organic Compounds, Oxygen Demanding Substances, and Pesticides. Based on these anticipated pollutants and operational activities at the solar energy facility site, the Source Control BMPs to be installed and/or implemented onsite are:

- Trash Storage
- Integrated Pest Management
- Efficient Irrigation and Landscape Design
- Property Owner Educational Materials Regarding Source Control Management

Treatment Control BMPs

Structural Treatment (treatment control) BMPs are engineered, designed, and constructed to remove pollutants from urban runoff by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption, or any other physical, biological, or chemical process.

The structural treatment BMPs for the solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site will include extended detention basins and under-panel detention. Detention basins are passive systems designed to detain the stormwater runoff from a water quality design storm for some minimum time to allow particles and associated pollutants to settle. They also provide flood control by including additional flood detention storage. The solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site is anticipated to generate sediment similar to the pre-developed condition. In addition, it has the potential to generate trash. The proposed detention basin will aid in the removal of such pollutants due to its high removal effectiveness for sediment, nutrients, metals, bacteria, oil and grease, and organics.

E. Groundwater

Indicator 10: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the solar energy facility site portion of the Alternative 3-Reduced Solar Energy Facility Site does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The IID Water Department delivers up to 3.1 million-acre feet of IID's Colorado River entitlement annually to nearly one-half million irrigated acres (Imperial Irrigation District, 2010). The site was previously used for agricultural

production; however it is currently vacant and does not use water. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. Approximately 200 acre feet of water will be used to decommission the facility. A majority of this water use is related to dust suppression activities and the grading activities required to restore the facility to an agricultural use. When compared to the fifteen acre feet per acre per year of water required for agricultural use, the 200 acre feet required to re-establish agricultural use for the entire site is minimal. _As such, the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site will not have a substantial impact associated with water infiltration and groundwater levels due to a very minor increase (0% to 0.5%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to jurisdictional resources under CEQA is anticipated from construction of the Alternative 3-Reduced Solar Energy Facility Site (solar energy facility site and Proposed Action Transmission Line Corridor). Approximately 0.5 acres of ACE jurisdictional resources and 7.2 acres of CDFG jurisdictional resources would be impacted during construction of the Alternative 3-Reduced Solar Energy Facility Site. However, with the implementation of Mitigation Measure B8, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B8 would mitigate the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources for a full analysis of the Alternative 3-Reduced Solar Energy Facility Site's impact to jurisdictional waters.

4.11.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on hydrology and water quality from the Alternative 4-No Action/No Project Alternative.

4.11.1.6 CEQA Summary

Based on the analysis above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site will result in hydrology and water quality impacts under CEQA. Implementation of Mitigation Measure HWQ1 would reduce this impact to a level less than significant under CEQA.

The Alternative 4-No Action/No Project Alternative will not result in hydrology and water quality impacts under CEQA. Therefore, no mitigation is required.

4.11.2 NEPA Environmental Assessment

4.11.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.11.1.1, water will continue to percolate onto the pervious ground surface below the solar panels. The proposed onsite drainage will be designed to replicate the existing condition and points of discharge on the solar energy facility site. Drainage infrastructure would include detention basins, under-panel detention, and existing drains and culverts. Implementation of the Proposed Action would not contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the solar energy facility site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. A portion of the solar energy facility site, south of Interstate 8 is located in Zone A, which is an area subject to one percent annual chance of a flood. The Proposed Action does not propose the placement of housing or other structures within a 100-year flood hazard area and would not expose people or structures to a risk or loss, injury or death involving flooding.

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities. Compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the Colorado River Regional Water Quality Control Board, would minimize potential effects on water quality. Implementation of Mitigation Measure HWQ1 will further reduce potential impacts on water quality.

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the Proposed Action does not propose to use the groundwater as a water source; therefore, in conjunction with maintaining existing drainage and complying with the relevant water laws as described above, groundwater supplies will not be impacted.

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a direct impact to jurisdictional resources is anticipated from construction of the solar energy facility and transmission line corridor. Implementation of Mitigation Measure B8 (see Section 4.12 of this EIR/EA would reduce the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio.

B. Alternative 1-Alternative Transmission Line Corridor

The Hydrology and Water Quality impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Hydrology and Water Quality impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a direct impact to jurisdictional resources is anticipated from construction of the solar energy facility and transmission line corridor. Implementation of Mitigation Measure B13 (see Section 4.12 of this EIR/EA would reduce the jurisdictional resources impact through purchase/acquisition of habitat at an appropriate mitigation ratio.

D. Alternative 3-Reduced Solar Energy Facility Site

The Hydrology and Water Quality impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.11.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on hydrology and water quality from the Alternative 4-No Action/No Project Alternative.

4.11.3 Mitigation Measures and Residual Impacts

4.11.3.1 Proposed Action

HWQ1 Prior to issuance of the first grading permit, the developer shall submit and receive a NPDES permit from the Colorado River Basin RWQCB in accordance with a SWPPP approved by the County of Imperial. The SWPPP shall include source control and treatment control BMPs for construction and operation phases of the project. Possible source control BMPs include, but are not limited to:

- trash storage;
- integrated pest management;
- efficient irrigation and landscape design; and,
- property owner educational materials regarding source control management.

These source control BMPs are described in detail in Appendix H-2 of this EIR/EA. Treatment control BMPs will comprise of detention basins to remove trash and pollutants such as sediment, nutrients, metals, bacteria, oil and grease, and organics.

BMP Maintenance

Proper maintenance is required to insure optimum performance of the detention basins. Maintenance will be the responsibility of the owner throughout the life of the project. The owner will instruct any future owner of the maintenance responsibility. The operational and maintenance needs of the proposed detention basins and under-panel detention basins include:

- Periodic sediment removal.
- Monitoring of the basin to ensure it is completely and properly drained.
- Outlet structure cleaning.
- Vegetation management.
- Removal of weeds, tree pruning, leaves, litter, and debris.
- Vegetative stabilization of eroding banks.

Inspection Frequency

The facility will be inspected and inspection visits will be completely documented:

- Once during the rainy season and once between each rainy season at a minimum,
- After every large storm (after every storm monitored or those storms with more than 0.50 inch of precipitation).

Aesthetic and Functional Maintenance

Functional maintenance is important for performance and safety reasons. Aesthetic maintenance is important for public acceptance of storm water facilities.

Aesthetic Maintenance-The following activities will be included in the aesthetic maintenance program:

- Weed Control: Weeds will be removed through mechanical means.

Functional Maintenance has two components:

- Preventative maintenance.
- Corrective maintenance.

Preventative Maintenance

Preventative maintenance will be done on a regular basis. Preventative maintenance activities to be instituted at the basin are:

- Trash and Debris: During each inspection and maintenance visit to the site, debris and trash removal will be conducted to reduce the potential for inlet and outlet structures and other components from becoming clogged and inoperable during storm events.
- Sediment management: Alluvial deposits at the inlet structures may create zones of ponded water. Upon these occurrences these deposits will be graded within the basin in an effort to maintain the functionality of the BMP. Sediment grading will be accomplished by manually raking the deposits.
- Sediment removal: Surface sediments will be removed when sediment accumulation is greater than 18-inches, or 10 percent of the basin volume, whichever is less. Vegetation removed with any surface sediment excavation activities will be replaced through reseeding as required under Mitigation Measure B2.
- Mechanical Components: Regularly scheduled maintenance will be performed on valves, fence gates, locks, and access hatches in accordance with the manufacturers' recommendations. Mechanical components will be operated during each maintenance inspection to assure continued performance.
- Elimination of Mosquito Breeding Habitats: The most effective mosquito control program is one that eliminates potential breeding habitats.

Corrective Maintenance

Corrective maintenance is required on an emergency or non-routine basis to correct problems and to restore the intended operation and safe function of a basin. Corrective maintenance activities include:

- Removal of Debris and Sediment: Sediment, debris, and trash, which threaten the ability of a basin to store or convey water, will be removed immediately and properly disposed of.
- Structural Repairs: Repairs to any structural component of a basin will be made promptly (e.g., within 10 working days). Designers and contractors will conduct repairs where structural damage has occurred.
- Embankment and Slope Repairs: Damage to the embankments and slopes will be repaired quickly (e.g., within 10 working days).
- Erosion Repair: Where a reseeding program has been ineffective, or where other factors have created erosive conditions (i.e., pedestrian traffic, concentrated flow, etc.), corrective steps will be taken to prevent loss of soil and any subsequent danger to the performance of a basin. There are a number of corrective actions that can be taken. These include erosion control blankets, riprap, sodding, or reduced flow through the area. Design engineers will be consulted to address erosion problems if the solution is not evident.

- Fence Repair: Timely repair of fences (e.g., within 10 working days) will be done to maintain the security of the site.
- Elimination of Trees and Woody Vegetation: Woody vegetation will be removed from embankments.
- Elimination of Animal Burrows: Animal burrows will be filled and steps taken to remove the animals if burrowing problems continue to occur (filling and compacting). All necessary protocols will be followed to ensure protection of sensitive burrowing species such as burrowing owl. If the problem persists, vector control specialists will be consulted regarding removal steps. This consulting is necessary as the threat of rabies in some areas may necessitate the animals being destroyed rather than relocated.
- General Facility Maintenance: In addition to the above elements of corrective maintenance, general corrective maintenance will address the overall facility and its associated components. If corrective maintenance is being done to one component, other components will be inspected to see if maintenance is needed.

Maintenance Frequency

Maintenance indicators, described above, will determine the schedule of maintenance activities to be implemented at the basin. These basins should not require a rigorous maintenance schedule, once the landscaping is established. The inspection frequency and regular preventative maintenance will indicate when corrective maintenance is necessary.

The detention basins must be inspected at least once during the rainy season and at least once between each rainy season. These basins must be maintained so that they continue to function as designed. All inspections and maintenance activities will be documented for submittal to the County of Imperial and the Regional Water Quality Control Board if requested.

4.11.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measure HWQ1 identified for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.11.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measure HWQ1 identified for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.11.3.4 Alternative 3-Reduced Solar Energy Facility Site

Mitigation Measure HWQ1 identified for the Proposed Action will also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.11.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed under Alternative 4-No Action/No Project Alternative, as no hydrology and water quality impacts under CEQA would occur.

4.11.3.6 Impact Analysis of Mitigation Measure

Impact Analysis of Mitigation Measure HWQ1:

Implementation of Mitigation Measure HWQ1 would not result in a direct or indirect impact because the source and treatment control BMPs will be implemented on-site and will not have any impacts that are not already addressed in this EIR/EA.

4.11.3.7 Residual Impact Analysis of Mitigation Measure

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

4.12 Biological Resources

Information contained in this section is summarized from the:

- *Biological Technical Report for the Imperial Solar Energy Center West Project* prepared by RECON Environmental, Inc. (November 9, 2010);
- *Mountain Plover Amendment to the Biological Assessment for the Imperial Solar Energy Center West Project* prepared by RECON Environmental, Inc. (February 15, 2011);
- *Imperial Solar Energy West Spring and Fall 2010 Rare Plant Survey Report* prepared by RECON Environmental, Inc. (December 28, 2010);
- *Burrowing Owl Nesting Season Surveys for the Imperial Solar Energy Center West Project* prepared by RECON Environmental, Inc. (July 29, 2010); and,
- *Focused Survey Results for the Southwestern Willow Flycatcher on the Imperial Solar Energy Center West Project* prepared by RECON Environmental, Inc. (July 30, 2010).

These reports are provided on the attached CD of Technical Appendices as Appendix I-1, I-1a, Appendix I-2, Appendix I-3, and Appendix I-4 of this EIR/EA.

CEQA Significance Criteria

For purposes of this EIR/EA, a significant Biological Resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service;*

Indicator 2: *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*

Indicator 3: *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means;*

Indicator 4: *Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

Indicator 5: *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,*

Indicator 6: *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

NEPA Methodology

The CEQA Significance Criteria identified above were used to provide a framework for the analysis of impacts to biological resources required under NEPA. This is appropriate because the CEQA indicators above capture the full range of impacts to biological resources related to the Proposed Action and its alternatives.

4.12.1 CEQA Environmental Analysis

The following provides an analysis of the potential biological impacts associated with construction and operation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative.

4.12.1.1 Proposed Action

The Proposed Action includes construction of the solar energy facility (R-1) and installation of monopoles and an associated access road within the transmission corridor (IVW-2 and IVW-2B).

A. Impact to Vegetation Communities

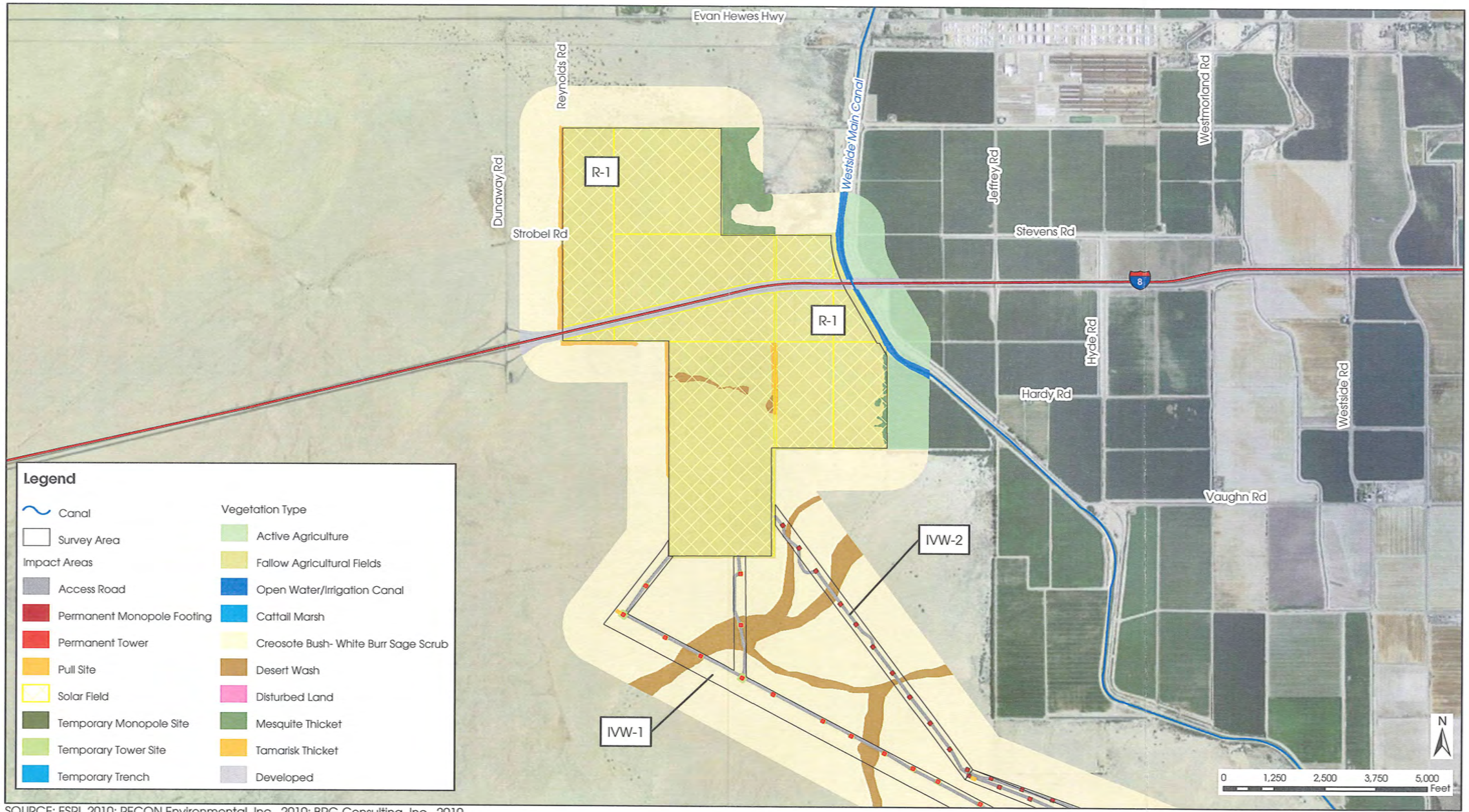
Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Proposed Action site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-1 below identifies the permanent and temporary impacts to vegetation communities.

Solar Energy Facility Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash vegetation and mesquite thicket is considered a significant impact under CEQA because these vegetation communities are native and provide habitat value for native species. Implementation of Mitigation Measure B1, in the form of compensatory mitigation for losses of desert wash vegetation and mesquite thicket, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of fallow agricultural land would be impacted with the implementation of the proposed solar energy facility. The dense vegetation cover and compact soils provide very low-quality habitat for some desert species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to more open habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

10/20/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Impact to Vegetation Communities

FIGURE 4.12-1a

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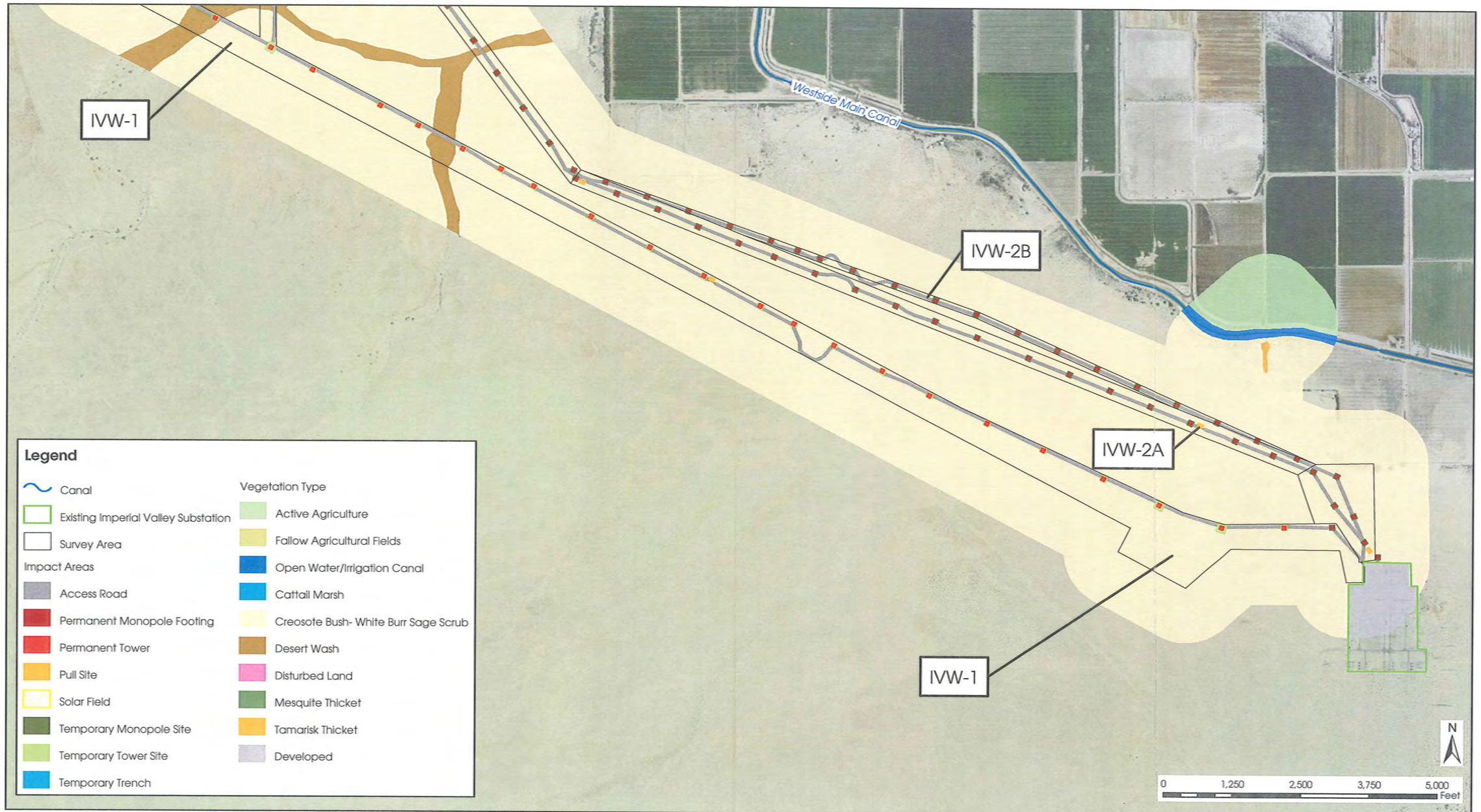

SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impact to Vegetation Communities

FIGURE 4.12-1b

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TABLE 4.12-1
Proposed Action Vegetation Community Impacts

Vegetation Communities/Land Cover Types	Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Proposed Action Impacts (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads		6.6	6.6
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
CBS Sub-total		*6.6*	*6.6*
Desert Wash (DW)			
Solar Energy Facility	6.7		6.7
Access roads		0.2	0.2
Lattice tower footings		-	
DW Sub-total	*6.7*	*0.2*	*6.9*
Mesquite Thicket (MT)	5.7	-	5.7
Tamarisk Thicket (TT)	7.2		7.2
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	1,051.9
Permanent Impact Totals	1,071.5	6.8	1,078.3
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite		0.1	0.1
Monopole work areas		6.8	6.8
Lattice tower work areas		-	-
CBS Sub-total		*6.9*	*6.9*
Desert Wash (DW)			
Lattice tower sites		-	-
DW Sub-total		-	-
Temporary Impact Totals	-	6.9	6.9
Total Proposed Action Impacts	1071.5	13.7	1,085.2

Source: RECON Environmental, Inc., 2010.

Proposed Action Transmission Line Vegetation Impact

The construction of the Proposed Action's transmission line within the larger BLM Utility Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation, as detailed in Table 4.12-1. Specifically, a permanent impact would occur where new transmission access roads and footings for monopole structures would be constructed. Temporary impacts to creosote bush-white burr sage scrub would total 6.9 acres during construction for pullsite and monopole construction areas including work areas around towers/monopoles and pullsites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path minimizing impacts to plant species when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Permanent and temporary impacts to creosote bush-white burr sage scrub and desert wash vegetation

are considered significant under CEQA. Implementation of Mitigation Measure B1 requires the project applicant to place under conservation easement, or a similar legal instrument used to protect the land's natural habitat value in perpetuity. Compensatory mitigation ratios are defined in Table 4.12-13 in this EIR/EA.

With implementation of Mitigation Measure B1, the compensation requirements will offset temporary and permanent impacts to the vegetation communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into an area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

The solar panels also have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the project area. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987).

To minimize the introduction and spread of weed species a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) (PER 2007). The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Proposed Action's construction or operations phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

Indicator 1: *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service.*

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Proposed Action project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants

and it's associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard (FTHL)

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and Proposed Action transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts would be considered significant under CEQA and mitigation would be required.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads.

Any of the above potential direct impacts would be considered significant under CEQA. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact to a level less than significant under CEQA.

Indirect Impacts

The Proposed Action transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the Management Area (MA) provides habitat for

this species, and an impact to this habitat is considered significant under CEQA. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

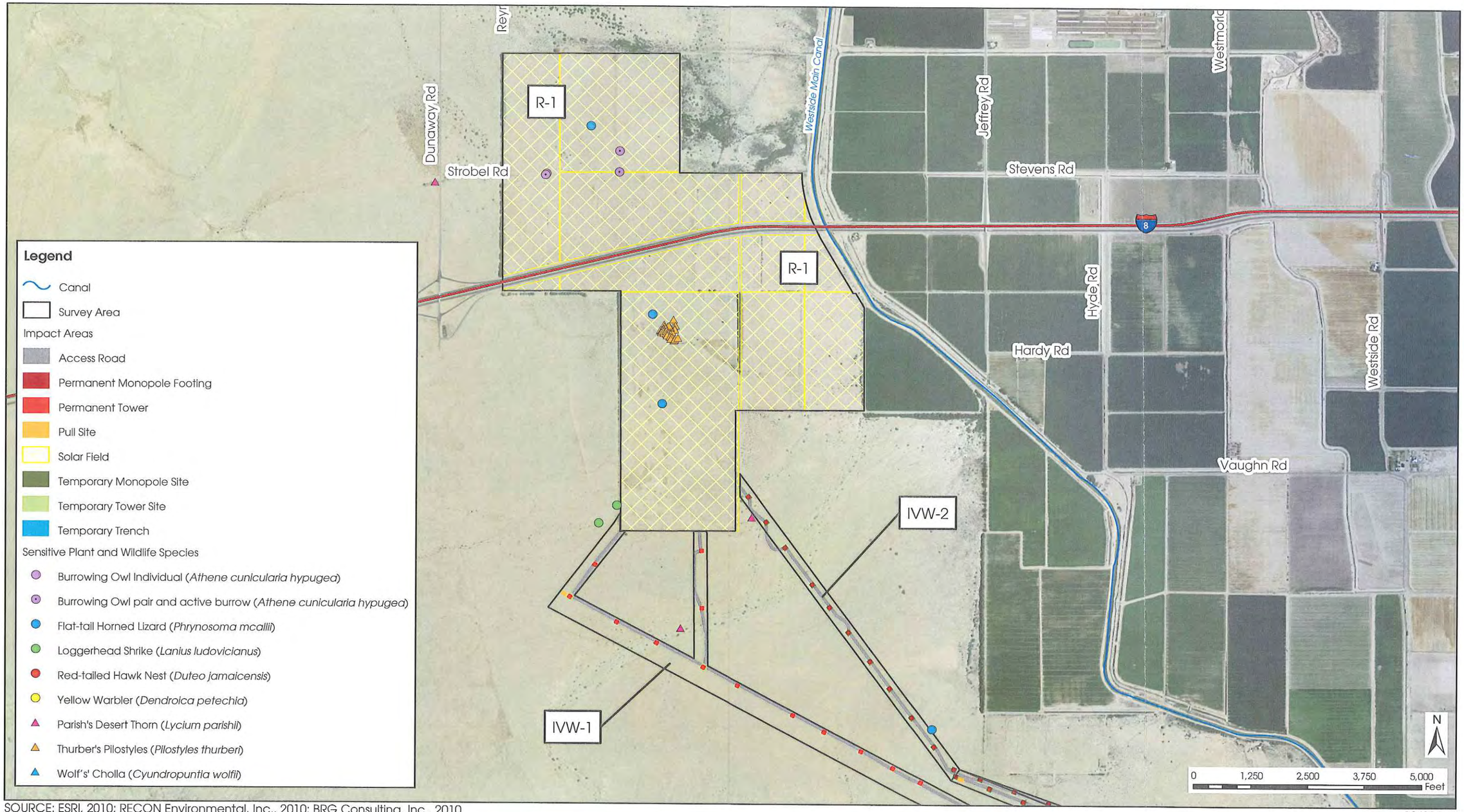
- The proposed solar energy facility is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by Imperial Irrigation District (IID), and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-2, the Proposed Action for electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 6.9 acres of FTHL habitat within the MA.

TABLE 4.12-2
Proposed Action Flat-tailed Horned Lizard Habitat Impacts

	Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Proposed Action Impacts (acres)
Permanent Impact			
Inside FTHL MA			
Access roads		6.8	6.8
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
Inside Sub-total		*6.8*	*6.8*
Private Land Outside FTHL MA			
Solar Energy Facility Fallow Agriculture	1058.6		1058.6
Outside Sub-total	*1058.6*		*1058.6*
Permanent Impact Totals	1,058.6	6.8	1,065.4
Temporary Impact			
Inside FTHL MA			
Pullsite		0.1	0.1
Monopole work areas		6.8	6.8
Lattice tower work areas			
Inside Sub-total		*6.9*	*6.9*
Temporary Impact Total		6.9	6.9
Total Proposed Action Impacts	1,058.6	13.7	1072.3

Source: RECON Environmental, Inc., 2010.



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Special Status Species

FIGURE 4.12-2a

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Figure 4.12-2a: Impacts to Special Status Species
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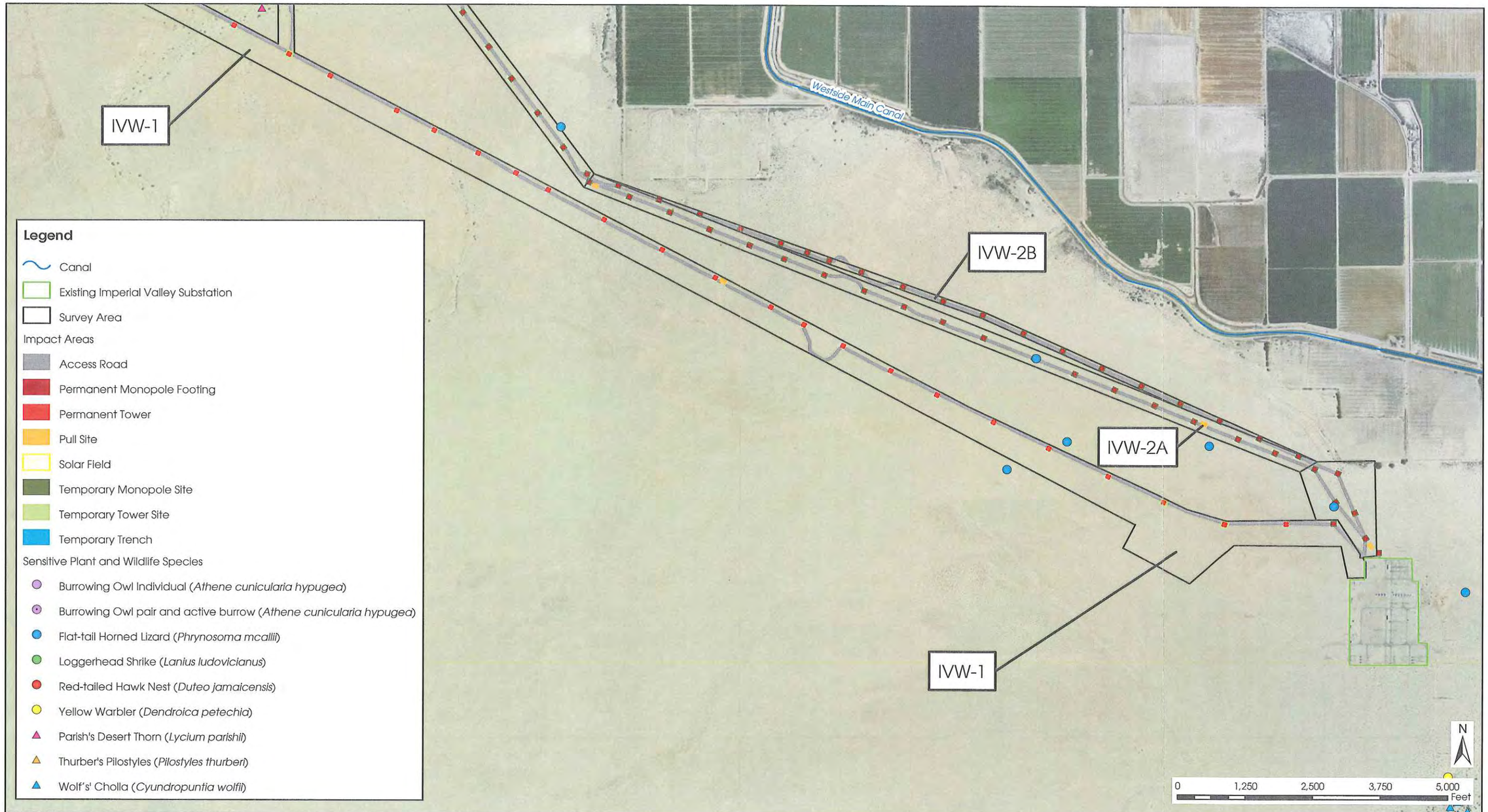

SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Special Status Species

FIGURE 4.12-2b

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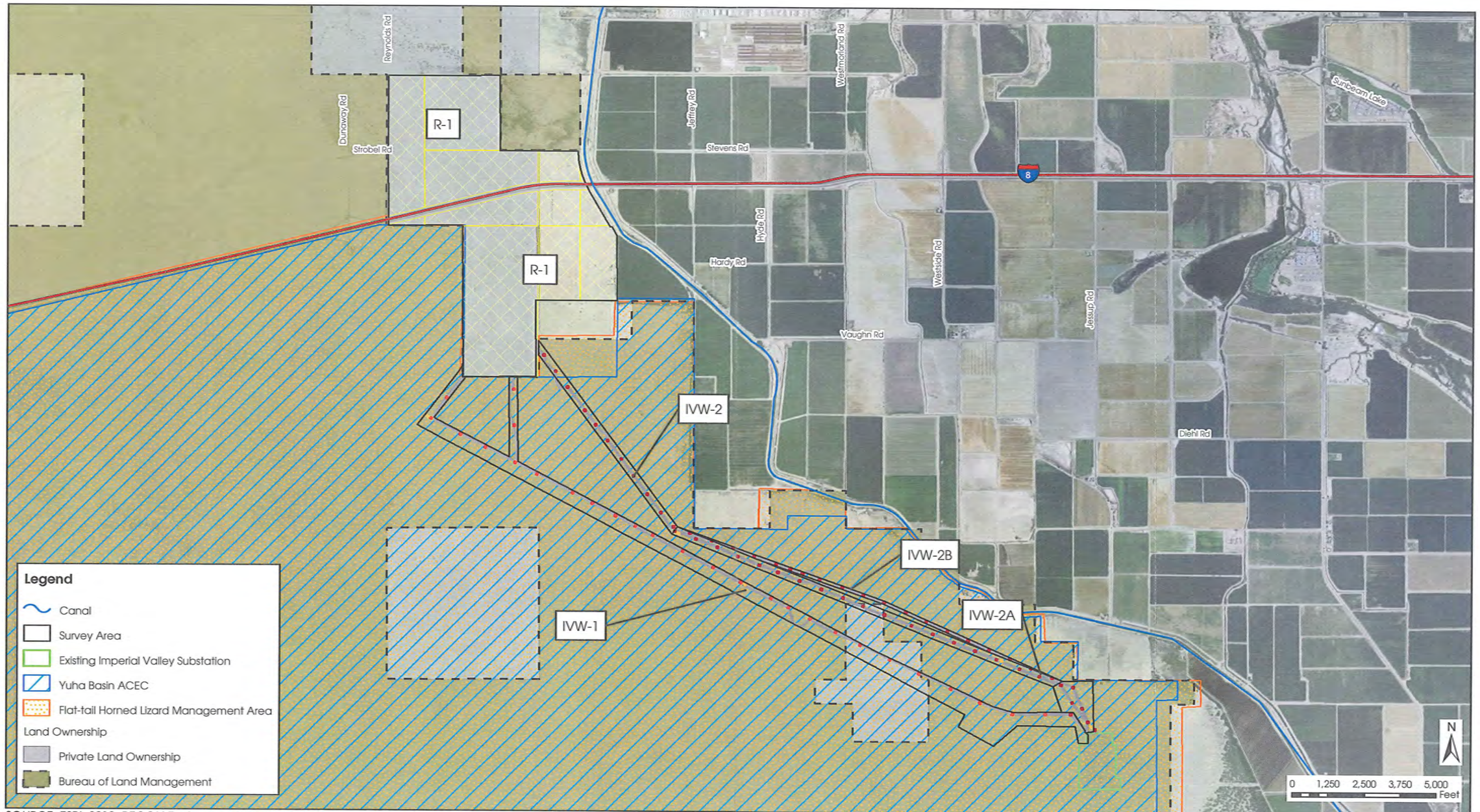
Figure 4.12-2b: Impacts to Special Status Species
11x17 Color (back)



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Yuha Desert Flat-tail Horned Lizard Management Area

FIGURE 4.12-3

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 12\Figure 4.12-3 Impacts to Yuha Desert Flat-tail Horned Lizard Mgmt Area.mxd

11x17 Color (back)

Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the dense vegetation cover and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to more open habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to FTHL resulting from grading the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial impacts to FTHL would result. However, with implementation of Mitigation Measure B3, the Proposed Action's construction-related indirect impacts to FTHL would be reduced to a level less than significant under CEQA through implementation of an approved habitat restoration plan that would specify restoration standards for impacts to FTHL habitat.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. This potential indirect impact to FTHLs would be considered significant under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows or disturbance within 75 meters during breeding season of February 1 through August 31;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Proposed Action would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owls. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and California Department of Fish and Game (CDFG) species of special concern. However, with the implementation of Mitigation Measure B5, this impact would be reduced to a level less than significant under CEQA. Mitigation Measure B5 requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines.

The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the fallow agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B1. Therefore, impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant under CEQA.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered significant and would require mitigation for the 13 acres of foraging habitat. Mitigation Measure B5 includes compensation for losses of foraging habitat, thus reducing this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantial impact on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or Proposed Action transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantial impact on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

Mountain Plover

The U.S. Fish and Wildlife Service notified the public on June 29, 2010, that they were reinitiating the proposed rule concerning the listing of the mountain plover (*Charadrius montanus*) as threatened under the Endangered Species Act (ESA). As result, project impacts were assessed to determine to what extent the proposed action may affect Mountain Plover and consultation was initiated. On May 12, 2011, the Fish and Wildlife Service withdrew the proposed rule for listing the mountain plover as threatened; therefore ESA Section 7 consultation for this species was no longer required; however, potential impacts are nevertheless discussed below.

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site that may provide suitable foraging habitat for the mountain plover; however, no disturbance to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for farm machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No construction impact associated with the Proposed Action will result.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No operations and maintenance impact associated with the Proposed Action will result.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Proposed Action site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts resulting in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a significant impact under CEQA. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities

that take place during the breading season and 500-foot buffers between nests and work activity, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact - Electrocution

The Avian Powerline Interaction Committee's (APLIC) 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Proposed Action transmission line route are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No significant impact under CEQA to raptors is expected to occur due to electrocution along the Proposed Action transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010e) and the (APLIC 2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC, 2006). The ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact under CEQA may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate).

Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction. Implementation of Mitigation Measure B7 will reduce impacts on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

2. Noise

No equipment or components of the solar energy facility or Proposed Action transmission lines are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Proposed Action transmission line, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Proposed Action transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the Proposed Action transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission line. In addition, the Proposed Action transmission line will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. This potential indirect impact to migratory birds, while considered adverse to individuals, would be less than significant to the migratory populations and not require mitigation. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the (APLIC 2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds determined by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collisions. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA.

For all these reasons, the Proposed Action's impacts on migratory birds will be reduced to a level less than significant under CEQA.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

For purposes of this report, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG and USFWS. Reasons for the designation as "sensitive" include restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Creosote bush–white burr sage scrub, mesquite thicket, and desert wash vegetation are three sensitive natural communities potentially affected by the Proposed Action. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impact to creosote bush-white burr sage scrub, mesquite thicket, and desert wash vegetation is considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B1, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of the Proposed Action to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub and desert wash vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things,

limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.*

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of Army Corps of Engineers (ACE). Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the State and waters of the U.S. are under the jurisdiction of Regional Water Quality Control Board (RWQCB).

Table 4.12-3 shows the proposed project impacts to ACE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action transmission line. Implementation of Mitigation Measure B8, which requires compensatory habitat in the specified ratios, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: *Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

TABLE 4.12-3
Proposed Action Impacts to Jurisdictional Resources

	Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Proposed Action Impacts (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACE- total	-	*0.3*	*0.3*
CDFG- Riparian			
Solar Energy Facility*	5.7		5.7
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Riparian Sub-total	*5.7*	*0.3*	*6.0*
CDFG- Streambed			
Solar Energy Facility*	0.9		0.9
Access roads		0.1	0.1
Monopole footings		<0.1	<0.1
Lattice tower footings			
Streambed Sub-total	*0.9*	*0.1*	*1.0*
Permanent CDFG- total	*6.6*	*0.4*	*7.0*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACE-NWW total	-	*0.2*	*0.2*
CDFG- Riparian			
Monopole work areas		0.2	0.2
Lattice tower work areas			
Riparian Sub-total	-	*0.2*	*0.2*
CDFG- Streambed			
Monopole work areas		<0.1	<0.1
Lattice tower work areas			
Streambed Sub-total		*<0.1*	*<0.1*
Temporary CDFG- total	-	*0.2*	*0.2*
ACE TOTAL	-	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,*that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement.

The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Thus there is no anticipated significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

For these reasons, the Proposed Action would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus, there is no significant impact under CEQA to wildlife movement or nursery sites.

G. Impact to California Desert Conservation Area

Indicator 5: *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

Indicator 6: *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impact to resources discussed in Section 4.12.2 is in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because the Proposed Action is consistent with applicable biological resource policies, no impact is anticipated for this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Proposed Action will not conflict with such a plan. No impact is identified for this issue area, and no mitigation is necessary.

4.12.1.2 Alternative 1-Alternative Transmission Line Corridor

The Alternative 1-Alternative Transmission Line Corridor includes construction of the solar energy facility (R-1) and installation of monopoles and an associated access road along the alternate transmission line (IVW-2 and IVW-2A).

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Alternative 1-Alternative Transmission Line Corridor are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-4 identifies the permanent and temporary impacts to vegetation communities.

Solar Energy Facility Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash vegetation and mesquite thicket is considered a significant impact under CEQA because these vegetation communities are native and provide habitat value for native species. Implementation of Mitigation Measure B9, in the form of compensatory mitigation for losses of desert wash vegetation and mesquite thicket, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of fallow agricultural land would be impacted with the implementation of the proposed solar energy facility. However, as part of the Alternative 1-Alternative Transmission Line Corridor, habitat restoration will be conducted on the solar field to improve habitat conditions for native species, including FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

Alternative 1 Transmission Line Vegetation Impact

The construction of the Alternative 1 transmission line within the larger BLM Utility Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation, where access roads and footings for monopole structures would be constructed. Temporary impacts to creosote bush-white burr sage scrub would result in 6.8 acres on the proposed pullsite and monopole construction areas. Permanent and temporary impacts to creosote bush-white burr sage scrub and desert wash vegetation are considered significant under CEQA. Implementation of Mitigation Measure B9, which requires the project applicant to place under conservation easement or a similar legal instrument used to protect the land's natural habitat value in perpetuity. Compensatory mitigation ratios are defined in Table 4.12-16.

With implementation of Mitigation Measure B9, the Alternative 1-Alternative Transmission Line Corridor will not have a significant impact on the vegetative communities identified above. The compensation requirements will offset temporary and permanent impacts to the vegetative communities to a level less than significant under CEQA.

TABLE 4.12-4
Alternative 1-Alternative Transmission Line Corridor Vegetation Community Impacts

Vegetation Communities/Land Cover Types	Solar Energy Facility Impacts (acres)	Alternative 1-Transmission Line (IVW-2 + IVW-2A) Impacts (acres)	Total Alternative 1-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads		6.6	6.6
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
CBS Sub-total		*6.6*	*6.6*
Desert Wash (DW)			
Solar Energy Facility	6.7		6.7
Access roads		0.2	0.2
Lattice tower footings		-	
DW Sub-total	*6.7*	*0.2*	*0.2*
Mesquite Thicket (MT)	5.7	-	5.7
Tamarisk Thicket (TT)	7.2		7.2
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	1,051.9
Permanent Impact Totals	1,071.5	6.8	1,078.3
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite		0.4	0.4
Monopole work areas		6.4	6.4
Lattice tower work areas		-	-
CBS Sub-total		*6.8*	*6.8*
Desert Wash (DW)			
Lattice tower sites		-	-
DW Sub-total		-	-
Temporary Impact Totals		6.8	6.8
Total Alternative 1-Alternative Transmission Line Corridor Impacts	1,071.5	13.6	1,085.1

Source: RECON Environmental, Inc., 2010.

B. Noxious, Invasive and Non-Native Weeds

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into an area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the

area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

The solar panels also have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the project area. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987). Additionally routine washing of the solar panels increases soil moisture availability.

To minimize the introduction and spread of weed species a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States PEIS released to the public on June 29, 2007, and implemented during construction and Operations and Management (O&M) activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. The implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Alternative 1-Alternative Transmission Line construction or operation phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

Indicator 1: *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service.*

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Alternative 1-Alternative Transmission Line Corridor project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and Alternative 1 transmission line. Construction activities such as the movement of construction vehicles or heavy

equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts would be considered significant under CEQA and mitigation would be required.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads.

Any of the above potential direct impacts would be considered significant under CEQA. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact to a level less than significant under CEQA.

Indirect Impacts

The Alternative 1 transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the Management Area (MA) provides habitat for this species, and an impact to this habitat is considered significant under CEQA. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by IID, and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.

- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-5, the Alternative 1 transmission line electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 7.0 acres of FTHL habitat within the MA. Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to FTHL resulting from grading the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

TABLE 4.12-5
Alternative 1-Alternative Transmission Line Corridor Flat-tailed Horned Lizard Habitat Impacts

	Solar Energy Facility Impacts (acres)	Alternative 1 Transmission Line (IVW-2 + IVW-2A) Impacts (acres)	Total Alternative 1-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
Inside FTHL MA			
Access roads		6.8	6.8
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
Inside Sub-total		*6.8*	*6.8*
Private Land Outside FTHL MA			
Solar Energy Facility Fallow Agriculture	1058.6		1058.6
Outside Sub-total	*1058.6*		*1058.6*
Permanent Impact Totals	1,058.6	6.8	1,065.4
Temporary Impact			
Inside FTHL MA			
Pullsite		0.4	0.4
Monopole work areas		6.4	6.4
Lattice tower work areas			
Inside Sub-total		*7.0*	*7.0*
Temporary Impact Total		7.0	7.0
Total Alternative 1-Alternative Transmission Line Corridor Impacts	1,058.6	13.8	1072.4

Source: RECON Environmental, Inc., 2010.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial impacts to FTHL would result. However, with implementation of Mitigation Measure B3 and B10, the Proposed Action's construction-related indirect impacts to FTHL would be reduced to a level less than significant under CEQA through implementation of an approved habitat restoration plan that would specify restoration standards for impacts to FTHL habitat.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. This potential indirect impact to FTHLs would be considered significant under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows or disturbance within 75 meters during breeding season of February 1 through August 31;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Alternative 1-Alternative Transmission Line Corridor would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with the implementation of Mitigation Measure B5, this impact would be reduced to a level less than significant under CEQA. Mitigation Measure B5 requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines.

The creosote bush-white burr sage scrub vegetation along the Alternative 1 transmission line and the fallow agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Alternative 1 transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B9. Therefore, impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant under CEQA.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered significant and would require mitigation for the 13 acres of foraging habitat. Mitigation Measure B5 includes compensation for losses of foraging habitat, thus reducing this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantial impact on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or Alternative 1 transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantial impact on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a

result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts associated with the construction of the Alternative 1–Alternative Transmission Line Corridor will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impact associated with the operations and maintenance of the Alternative 1 – Alternative Transmission Line Corridor will occur.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 1-Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts resulting in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a significant impact under CEQA. Implementation of Mitigation Measure B6 which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-foot buffers between nests and working activity, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact - Electrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Alternative 1 transmission line route are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No impact to raptors is expected to occur due to electrocution along the Alternative 1 transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be

developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC, 2006). The ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact under CEQA may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction. Implementation of Mitigation Measure B7 will reduce impacts on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

2. Noise

No equipment or components of the solar energy facility or transmission lines are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds.

3. Collision

Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Alternative 1 transmission line as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Alternative 1 transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the proposed lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission line. In addition, the proposed route IVW-2 and IVW-2a will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. This potential indirect impact to migratory birds, while considered adverse to individuals, would be less than significant under CEQA to the migratory populations and not require mitigation. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds determined by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

For all these reasons, the Alternative 1-Alternative Transmission Line Corridor's impacts on migratory birds will be reduced to a level less than significant under CEQA.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

For purposes of this report, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG and USFWS. Reasons for the designation as "sensitive" include restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Creosote bush–white burr sage scrub, mesquite thicket, and desert wash vegetation are three sensitive natural communities potentially affected by the Alternative 1-Alternative Transmission Line Corridor. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impact to creosote bush-white burr sage scrub, mesquite thicket, and desert wash vegetation is considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B9, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of the Alternative 1-Alternative Transmission Line Corridor to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 1 transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub and desert wash vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the State and waters of the U.S. are under the jurisdiction of RWQCB.

Table 4.12-6 shows Alternative 1-Alternative Transmission Line Corridor impacts to ACE and CDFG jurisdictional resources.

TABLE 4.12-6
Alternative 1-Alternative Transmission Line Corridor Impacts to Jurisdictional Resources

	Solar Energy Facility Impacts (acres)	Alternative 1 Transmission Line (IVW-2 + IVW-2A) Impacts (acres)	Total Alternative 1-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACE- total	*-*	*0.3*	*0.3*
CDFG- Riparian			
Solar Energy Facility*	5.7		5.7
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Riparian Sub-total	*5.7*	*0.3*	*6.0*
CDFG- Streambed			
Solar Energy Facility*	0.9		0.9
Access roads		0.1	0.1
Monopole footings		<0.1	<0.1
Lattice tower footings			
Streambed Sub-total	*0.9*	*0.1*	*1.0*
Permanent CDFG- total	*6.6*	*0.4*	*7.0*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACE-NWW total	*-*	*0.2*	*0.2*
CDFG- Riparian			
Monopole work areas		0.2	0.2
Lattice tower work areas			
Riparian Sub-total	*-*	*0.2*	*0.2*
CDFG- Streambed			
Monopole work areas		<0.1	<0.1
Lattice tower work areas			
Streambed Sub-total		*<0.1*	*<0.1*
Temporary CDFG- total	*-*	*0.2*	*0.2*
ACE TOTAL	*-*	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Alternative 1 transmission line. Implementation of Mitigation Measure B8, which requires compensatory habitat in the specified ratios, will reduce this impact to a level less than significant.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Thus there is no anticipated significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

For these reasons, the Alternative 1-Alternative Transmission Line Corridor would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus, there is no significant impact under CEQA to wildlife movement or nursery sites.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Bureau of Land Management (BLM) manages all land uses within the ACEC in order to minimize impacts to this sensitive area. The Alternative 1 transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impact to resources discussed in Section 4.12.2 is in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because the Alternative 1-Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no impact is anticipated for this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Alternative 1-Alternative Transmission Line Corridor will not conflict with such a plan. No impact is identified for this issue area, and no mitigation is necessary.

4.12.1.3 Alternative 2-Alternative Transmission Line Corridor

The Alternative 2-Alternative Transmission Line Corridor includes the construction of the solar energy facility (R-1) and the installation of monopoles, lattice towers, and an associated access road for the transmission line (IVW-1).

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Alternative 2-Alternative Transmission Line Corridor site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-7 below identifies the permanent and temporary impacts to vegetation communities.

Solar Energy Facility Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash vegetation and mesquite thicket is considered a significant impact under CEQA because

these vegetation communities are native and provide habitat value for native species. Implementation of Mitigation Measure B11, in the form of compensatory mitigation for losses of desert wash vegetation and mesquite thicket, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of fallow agricultural land would be impacted with the implementation of the proposed solar energy facility. However, as part of the Alternative 2-Alternative Transmission Line Corridor, habitat restoration to native desert habitat will be conducted on the solar field to improve habitat conditions for native species, including FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

Alternative 2 Transmission Line Vegetation Impact

The construction of the Alternative 2 transmission line within the larger BLM Utility Corridor would permanently impact 7.9 acres of creosote bush-white burr sage scrub and 0.5 acres of desert wash vegetation, as detailed in Table 4.12-7. Areas of permanent impact are areas where the surface of the ground would be permanently disturbed. Specifically, permanent impacts would occur to creosote bush-white burr sage scrub and desert wash vegetation where new transmission access roads and lattice tower footings are proposed to be constructed.

The Alternative 2 transmission line would temporarily impact 4.3 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible. Creosote bush-white burr sage scrub would be impacted on the pullsite, monopole, and lattice tower construction areas. Desert wash vegetation would be impacted on the lattice tower construction sites. Permanent and temporary impacts to creosote bush-white burr sage scrub and desert wash vegetation are considered significant under CEQA. Implementation of Mitigation Measure B11 requires the project applicant to place under conservation easement, or a similar legal instrument used to protect the land's natural habitat value in perpetuity. Compensatory mitigation ratios are defined in Table 4.12-18.

With implementation of Mitigation Measure B11, the compensation requirements will offset temporary and permanent impacts to the vegetation communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into and area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

TABLE 4.12-7
Alternative 2-Alternative Transmission Line Corridor Vegetation Community Impacts

Vegetation Communities/Land Cover Types	Solar Energy Facility Impacts (acres)	Alternative 2 Transmission Line (IVW-1) Impacts (acres)	Total Alternative 2-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads		7.9	7.9
Monopole footings		-	
Lattice tower footings		<0.1	<0.1
CBS Sub-total		*7.9*	*7.9*
Desert Wash (DW)			
Solar Energy Facility	6.7		
Access roads		0.5	0.5
Lattice tower footings		<0.1	<0.1
DW Sub-total	*6.7*	*0.5*	*0.5*
Mesquite Thicket (MT)	5.7	-	5.7
Tamarisk Thicket (TT)	7.2		7.2
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	1,051.9
Permanent Impact Totals	1,071.5	8.4	1079.9
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite		0.3	0.3
Monopole work areas		0.4	0.4
Lattice tower work areas		3.6	3.6
CBS Sub-total		*4.3*	*4.3*
Desert Wash (DW)			
Lattice tower sites		0.2	0.2
DW Sub-total		*0.2*	*0.2*
Temporary Impact Totals		4.5	4.5
Total Alternative 2-Alternative Transmission Line Corridor Impacts	1,071.5	12.9	1,084.4

Source: RECON Environmental, Inc., 2010.

The solar panels also have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the project area. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987). Additionally routine washing of the solar panels increases soil moisture availability.

To minimize the introduction and spread of weed species a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) released to the public on June 29, 2007, and implemented during construction and Operations and Management (O&M) activities. The

Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Alternative 2-Alternative Transmission Line Corridor's construction or operations phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

Indicator 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Alternative 2-Alternative Transmission Line Corridor project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and Alternative 2 transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts would be considered significant under CEQA and mitigation would be required.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads.

Any of the above potential direct impacts would be considered significant under CEQA. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact to a level less than significant under CEQA.

Indirect Impacts

The Alternative 2 transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species, and an impact to this habitat is considered significant under CEQA. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-1 will be located adjacent to the proposed Sunrise Powerlink.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-8, the Alternative 2 electrical transmission may permanently affect up to 8.4 acres and temporarily impact up to 4.5 acres of FTHL habitat within the MA.

TABLE 4.12-8
Alternative 2-Alternative Transmission Line Corridor Flat-tailed Horned Lizard Habitat Impacts

	Solar Energy Facility Impacts (acres)	Alternative 2 Transmission Line (IVW-1) Impacts (acres)	Total Alternative 2-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
Inside FTHL MA			
Access roads		8.4	8.4
Monopole footings		-	
Lattice tower footings		<0.1	<0.1
Inside Sub-total		*8.4*	*8.4*
Outside FTHL MA			
Solar Energy Facility	1058.6		1058.6
Outside Sub-total	*1058.6*		*1058.6*
Permanent Impact Totals	1,058.6	8.4	1067.0
Temporary Impact			
Inside FTHL MA			
Pullsite		0.3	0.3
Monopole work areas		0.4	0.4
Lattice tower work areas		3.8	3.8
Inside Sub-total		*4.5*	*4.5*
Temporary Impact Total		4.5	4.5
Total Alternative 2-Alternative Transmission Line Corridor Impacts	1,058.6	12.9	1071.5

Source: RECON Environmental, Inc., 2010.

Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to FTHL resulting from grading the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial impacts to FTHL would result. However, with implementation of Mitigation Measure B3 and B12, the Alternative 2-Alternative Transmission Line Corridor's construction-related indirect impacts to FTHL would

be reduced to a level less than significant under CEQA through implementation of an approved habitat restoration plan that would specify restoration standards for impacts to FTHL habitat.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. This potential indirect impact to FTHLs would be considered significant under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows or disturbance within 75 meters during breeding season of February 1 through August 31;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Alternative 2-Alternative Transmission Line Corridor would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with the implementation of Mitigation Measure B5, this impact would be reduced to a level less than significant under CEQA. Mitigation Measure B5 requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines.

The creosote bush-white burr sage scrub vegetation along the Alternative 2 transmission line and the fallow agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 7.9 acres of creosote bush-white burr sage scrub will be permanently impacted by the Alternative 2 transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B11. Therefore, impacts to

burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant under CEQA.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered significant and would require mitigation for the 13 acres of foraging habitat. Mitigation Measure B5 includes compensation for losses of foraging habitat, thus reducing this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the Solar Energy Facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantial impact on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or Alternative 2 transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantial impact on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts to mountain plover associated with construction of the Alternative 2 – Alternative Transmission Line Corridor will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts to mountain plover associated with operations and maintenance of the Alternative 2 – Alternative Transmission Line Corridor will occur.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 2-Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts resulting in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions would constitute a significant impact under CEQA. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-foot buffers between nests and work activity, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact - Electrocution

The APLIC's 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Alternative 2 transmission line route are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No impact to raptors is expected to occur due to electrocution along the Alternative 2 transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC, 2006). The ABPP is discussed

further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur under CEQA by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction. Implementation of Mitigation Measure B7 will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

2. Noise

No equipment or components of the solar energy facility or Alternative 2 transmission lines are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Alternative 2 transmission line, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Alternative 2 transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission line. In addition, the Alternative 2 transmission line is situated adjacent to an existing transmission line, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. This potential indirect impact to migratory birds, while considered adverse to individuals, would be less than significant under CEQA to the migratory populations and not require mitigation. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds determined by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA.

For all these reasons, the Alternative 2-Alternative Transmission Line Corridor's impacts on migratory birds will be reduced to a level less than significant under CEQA.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

For purposes of this report, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG and USFWS. Reasons for the designation as "sensitive" include restricted range, cumulative

losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Creosote bush–white burr sage scrub, mesquite thicket, and desert wash vegetation are three sensitive natural communities potentially affected by the Alternative 2-Alternative Transmission Line Corridor. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impact to creosote bush-white burr sage scrub, mesquite thicket, and desert wash vegetation is considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B11, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of the Alternative 2-Alternative Transmission Line Corridor to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 2 transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub and desert wash vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, specifically the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the state and waters of the U.S. are under the jurisdiction of RWQCB. Table 4.12-9 shows the Alternative 2-Alternative Transmission Line Corridor impacts to ACE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

TABLE 4.12-9
Alternative 2-Alternative Transmission Line Corridor Impacts to Jurisdictional Resources

	Solar Energy Facility Impacts (acres)	Alternative 2 Transmission Line (IVW-1) Impacts (acres)	Total Alternative 2-Alternative Transmission Line Corridor Impacts (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads		0.8	0.8
Monopole footings			
Lattice tower footings		<0.1	<0.1
Permanent ACE- total	-	*0.8*	*0.8*
CDFG- Riparian			
Solar Energy Facility*	5.7		5.7
Access roads		0.7	0.7
Monopole footings			
Lattice tower footings		<0.1	<0.1
Riparian Sub-total	*5.7*	*0.7*	*6.4*
CDFG- Streambed			
Solar Energy Facility*	0.9		0.9
Access roads		0.1	0.1
Monopole footings			
Lattice tower footings		<0.1	<0.1
Streambed Sub-total	*0.9*	*0.1*	*1.0*
Permanent CDFG- total	*6.6*	*0.8*	*7.4*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas			
Lattice tower work areas		0.3	0.3
Temporary ACE-NWW total	-	*0.3*	*0.3*
CDFG- Riparian			
Monopole work areas			
Lattice tower work areas		0.2	0.2
Riparian Sub-total	-	*0.2*	*0.2*
CDFG- Streambed			
Monopole work areas			
Lattice tower work areas		0.1	0.1
Streambed Sub-total		*0.1*	*0.1*
Temporary CDFG- total	-	*0.3*	*0.3*
ACE TOTAL	-	*1.1*	*1.1*
CDFG TOTAL	*6.6*	*1.1*	*7.7*

Source: RECON Environmental, Inc., 2010.

A significant impact under CEQA to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the transmission line. Implementation of Mitigation Measure B13, which requires compensatory habitat in the specified ratios, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility, allowing small mammals and reptiles to move freely through the site. Although medium and large-sized mammals will not be able to move through the solar energy facility, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Thus there is no anticipated significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

For these reasons, the Alternative 2-Alternative Transmission Line Corridor would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Thus, there is no significant impact under CEQA to wildlife movement or nursery sites.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Alternative 2 transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impact to resources discussed in Section 4.12.2 is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. Because the Alternative 2-Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no impact is anticipated for this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Alternative 2-Alternative Transmission Line Corridor will not conflict with such a plan. No impact is identified for this issue area, and no mitigation is necessary.

4.12.1.4 Alternative 3- Reduced Solar Energy Facility Site

The Alternative 3-Reduced Solar Energy Facility Site includes construction of the reduced solar energy facility (R-1) and monopoles and an associated access road for the transmission line (IVW-2 and IVW-2B).

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Alternative 3-Reduced Solar Energy Facility Site project site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-10 identifies the permanent and temporary impacts to vegetation communities.

Reduced Solar Energy Facility Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash vegetation and mesquite thicket is considered a significant impact under CEQA because these vegetation communities are native and provide habitat value for native species. Implementation of Mitigation Measure B14, requires the project applicant to place under conservation easement, or a similar legal instrument used to protect the land's natural habitat value in perpetuity. Compensatory mitigation ratios are defined in Table 4.12-21.

TABLE 4.12-10
Alternative 3-Reduced Solar Energy Facility Site Vegetation Community Impacts

Vegetation Communities/Land Cover Types	Reduced Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Alternative 3-Reduced Solar Energy Facility Site Impacts (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads		6.6	6.6
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
CBS Sub-total		*6.6*	*6.6*
Desert Wash (DW)			
Solar Energy Facility	6.7		6.7
Access roads		0.2	
Lattice tower footings		-	
DW Sub-total	*6.7*	*0.2*	*6.9*
Mesquite Thicket (MT)	5.7	-	5.7
Tamarisk Thicket (TT)	7.2		7.2
Abandoned (Fallow) Agriculture (AA)	1041.6	-	1041.6
Permanent Impact Totals	1061.2	6.8	1068.0
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite		0.1	0.1
Monopole work areas		6.8	6.8
Lattice tower work areas		-	-
CBS Sub-total		*6.9*	*6.9*
Desert Wash (DW)			
Lattice tower sites		-	-
DW Sub-total		-	-
Temporary Impact Totals		6.9	6.9
Total Alternative 3-Reduced Solar Energy Facility Site Impacts	1061.2	13.6	1074.9

Source: RECON Environmental, Inc., 2010.

Approximately 1,041.6 acres of fallow agricultural land would be impacted with the implementation of the proposed solar energy facility. However, as part of the Alternative 3-Reduced Solar Energy Facility Site, habitat restoration to native desert habitat will be conducted on the solar field to improve habitat conditions for native species, including FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

Proposed Action Transmission Line Vegetation Impact

The construction of the Proposed Action transmission line within the larger BLM Utility Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation. Specifically, a permanent impact would occur where new access roads and footings for monopole structures would be constructed. Temporary impacts to creosote bush-white burr sage scrub would result in 6.9 acres. Creosote bush-white burr sage scrub would be impacted on the pullsite and monopole construction areas. Permanent and temporary impacts to creosote bush-white burr sage scrub and desert wash vegetation are considered significant under CEQA. Implementation of Mitigation Measure B14 requires the project applicant to place under conservation easement, or a similar legal instrument used to protect the land's natural habitat value in perpetuity. Compensatory mitigation ratios are defined in Table 4.12-21.

With implementation of Mitigation Measure B14, the compensation requirements will offset temporary and permanent impacts to the vegetation communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into and area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

The solar panels also have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the project area. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987). Additionally routine washing of the solar panels increases soil moisture availability.

To minimize the introduction and spread of weed species a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) released to the public on June 29, 2007, and implemented during construction and Operations and Management (O&M) activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the

Alternative 3-Reduced Solar Energy Facility Site's construction or operation phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

Indicator 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Alternative 3-Reduced Solar Energy Facility Site project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the reduced solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts would be considered significant under CEQA and mitigation would be required.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads.

Any of the above potential direct impacts would be considered significant under CEQA. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact to a level less than significant under CEQA.

Indirect Impacts

The Proposed Action transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species, and an impact to this habitat is considered significant under CEQA. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by IID, and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-11, the Proposed Action transmission line for electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 6.9 acres of FTHL habitat within the MA.

Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, impacts to FTHL resulting from grading the fallow agricultural fields would be less than significant under CEQA and no mitigation would be required.

TABLE 4.12-11
Alternative 3-Reduced Solar Energy Facility Site Flat-tailed Horned Lizard Habitat Impacts

	Reduced Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Alternative 3-Reduced Solar Energy Facility Site Impacts (acres)
Permanent Impact			
Inside FTHL MA			
Access roads		6.8	6.8
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
Inside Sub-total		*6.8*	*6.8*
Outside FTHL MA			
Solar Energy Facility	1048.3		1048.3
Outside Sub-total	*1048.3*		*1048.3*
Permanent Impact Totals	1048.3	6.8	1055.1
Temporary Impact			
Inside FTHL MA			
Pullsite		0.1	0.1
Monopole work areas		6.8	6.8
Lattice tower work areas			
Inside Sub-total		*6.9*	*6.9*
Temporary Impact Total		6.9	6.9
Total Alternative 3-Reduced Solar Energy Facility Site Impacts	1048.3	13.7	1062.0

Source: RECON Environmental, Inc., 2010.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial impacts to FTHL would result. However, with implementation of Mitigation Measure B3 and B15, the Alternative 3-Reduced Solar Energy Facility Site's construction-related indirect impacts to FTHL would be reduced to a level less than significant under CEQA through implementation of an approved habitat restoration plan that would specify restoration standards for impacts to FTHL habitat.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. This potential indirect impact to FTHLs would be considered significant under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows or disturbance within 75 meters during breeding season of February 1 through August 31;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Alternative 3-Reduced Solar Energy Facility Site would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with the implementation of Mitigation Measure B5, this impact would be reduced to a level less than significant under CEQA. Mitigation Measure B5 requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines.

The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the fallow agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B14. Therefore, impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant under CEQA.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered significant under CEQA and would require mitigation for the 13 acres of foraging habitat. Mitigation Measure B5 includes compensation for losses of foraging habitat, thus reducing this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantial impact on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantial impact on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts to mountain plover associated with construction of the Alternative 3 – Reduced Solar Energy Facility Site will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts to mountain plover associated with operations and maintenance of the Alternative 3 – Reduced Solar Energy Facility Site will occur.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction for the Alternative 3-Reduced Solar Energy Facility Site shall take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts resulting in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a significant impact under CEQA. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-foot buffers between nests and work activity, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact - Electrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Proposed Action transmission line route are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart; far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC, 2006). The ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact under CEQA may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction. Implementation of Mitigation Measure B7 will reduce impacts on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

2. Noise

No equipment or components of the solar energy facility or Proposed Action transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Proposed Action transmission line, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through

the area. The Proposed Action transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the Proposed Action transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the Proposed Action transmission line will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. This potential indirect impact to migratory birds, while considered adverse to individuals, would be less than significant under CEQA to the migratory populations and not require mitigation. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds determined by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA.

For all these reasons, the Alternative 3-Reduced Solar Energy Facility Site's impacts on migratory birds will be reduced to a level less than significant.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

For purposes of this report, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG and USFWS. Reasons for the designation as "sensitive" include restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Creosote bush–white burr sage scrub, mesquite thicket, and desert wash vegetation are three sensitive natural communities potentially affected by Alternative 3-Reduced Solar Energy Facility Site. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impact to creosote bush-white burr sage scrub, mesquite thicket, and desert wash vegetation is considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B14, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of the Alternative 3-Reduced Solar Energy Facility Site to a level less than significant.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub and desert wash vegetation communities. Implementation of Mitigation Measure B2, specifically the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the state and waters of the U.S. are under the jurisdiction of RWQCB. Table 4.12-12 shows the Alternative 3-Reduced Solar Energy Facility Site impacts to ACE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action transmission line. Implementation of Mitigation Measure B8, which requires compensatory habitat in the specified ratios, will reduce this impact to a level less than significant under CEQA.

Operations and Maintenance Impact

The reduced solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

TABLE 4.12-12
Alternative 3-Reduced Solar Energy Facility Site Impacts to Jurisdictional Resources

	Reduced Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line (IVW-2 + IVW-2B) Impacts (acres)	Total Alternative 3-Reduced Solar Energy Facility Site Impacts (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACE- total	-	*0.3*	*0.3*
CDFG- Riparian			
Solar Energy Facility*	5.7		5.7
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Riparian Sub-total	*5.7*	*0.3*	*6.0*
CDFG- Streambed			
Solar Energy Facility*	0.9		0.9
Access roads		0.1	0.1
Monopole footings		<0.1	<0.1
Lattice tower footings			
Streambed Sub-total	*0.9*	*0.1*	*1.0*
Permanent CDFG- total	*6.6*	*0.4*	*7.0*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACE-NWW total	-	*0.2*	*0.2*
CDFG- Riparian			
Monopole work areas		0.2	0.2
Lattice tower work areas			
Riparian Sub-total	-	*0.2*	*0.2*
CDFG- Streambed			
Monopole work areas		<0.1	<0.1
Lattice tower work areas			
Streambed Sub-total		*<0.1*	*<0.1*
Temporary CDFG- total	-	*0.2*	*0.2*
ACE TOTAL	-	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the reduced solar energy facility, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Thus there is no anticipated significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

For these reasons, the Alternative 3-Reduced Solar Energy Facility Site would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus, there is no significant impact under CEQA to wildlife movement or nursery sites.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impact to resources discussed in Section 4.12.2 is in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because the Alternative 3-Reduced Solar Energy Facility Site is consistent with applicable biological resource policies, no impact is anticipated for this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Alternative 3-Reduced Solar Energy Facility Site will not conflict with such a plan. No impact is identified for this issue area and no mitigation is necessary.

4.12.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no impacts on biological resources from the Alternative 4-No Action/No Project Alternative.

4.12.1.6 CEQA Impact Summary

A. Proposed Action

Implementation of Mitigation Measures B1 through B8 would reduce the impacts to biological resources to a level less than significant under CEQA

B. Alternative 1-Alternative Transmission Line Corridor

Implementation of Mitigation Measures B2 through B10 would reduce the impacts to biological resources to a level less than significant under CEQA.

C. Alternative 2-Alternative Transmission Line Corridor

Implementation of Mitigation Measures B2 through B7 and B11 through B13 would reduce the impacts to biological resources to a level less than significant under CEQA.

D. Alternative 3-Reduced Solar Energy Facility Site

Implementation of Mitigation Measures B2 through B8 and B14 through B15 would reduce the impacts to biological resources to a level less than significant under CEQA.

E. Alternative 4-No Action/No Project Alternative

The Alternative 4-No Action/No Project Alternative will not result in biological resources impacts under CEQA. Therefore, no mitigation is required.

4.12.2 NEPA Environmental Assessment

4.12.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above in Section 4.12.1.1, impacts to vegetation communities within the Proposed Action site are depicted on Figures 4.12-1a and 4.12-1b above. Table 4.12-1 above identifies the permanent and temporary impacts to vegetation communities for the Proposed Action.

Impact to Vegetation Communities

Solar Energy Facility Site Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. Tamarisk thicket vegetation is not considered sensitive; thus, does not require mitigation. Desert wash vegetation and mesquite thicket is considered sensitive because these vegetation communities are native and provide habitat value for native species. As such, the Proposed Action would directly impact vegetation habitats on the solar energy facility site. However, those impacts would be mitigated by Mitigation Measure B1, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the National Fish and Wildlife Foundation (NFWF) mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-13 below will reduce this impact.

The proposed solar energy facility is proposed to be sited on approximately 1,051.9 acres of fallow agricultural land, that have been out of agricultural production for approximately 10-20 years, depending on the parcel, due to soil and hydrologic constraints that made the farming of field crops impractical. As result, the Proposed Action is not expected to directly or indirectly impact existing agricultural resources. While some native vegetation has recovered in specific locations, the fallow fields are very weedy and largely retain the agricultural topographic features and man-made irrigation facilities. As part of the Proposed Action, the applicant will conduct habitat restoration on the solar field to comply with the project's Weed Management Plan, and Dust Control Plan, and will improve habitat conditions for native species, including FTHL, while the project is in operation. As a result, the Proposed Action is expected to improve the habitat quality of the project site relative to fallow agricultural fields,

Proposed Action Transmission Line Vegetation Impact

The construction of the Proposed Action's transmission line within the larger BLM Utility Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation, as detailed in Table 4.12-1. Specifically, a permanent impact would occur where new transmission access roads and footings for monopole structures would be constructed. Temporary impacts to creosote bush-white burr sage scrub would total 6.9 acres during construction for pullsite and monopole construction areas including work areas around towers/monopoles and pullsites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path

minimizing impacts to plant species when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted.

These impacts will be mitigated through the implementation of Mitigation Measure B1 which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the National Fish and Wildlife Foundation (NFWF) mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-13 below will reduce this impact.

Noxious, Invasive and Non-Native Weeds Impact

Based on the analysis provided above under Section 4.1.12.1, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) released to the public on June 29, 2007, and implemented during construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities.

Impact to Special Status Species

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Proposed Action project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. Implementation of Mitigation Measure B3, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. Implementation of Mitigation Measure B4, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species. MM B4 also and provides a number of general mitigation measures during O&M activities developed to reduce direct O&M effects such as the Raven Control Plan, which will be designed to discourage scavenger species from occupying the project site and potentially preying on FTHL.

Indirect Impacts

The Proposed Action transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy*. Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species. Figure 4.12-3 above depicts the project's impacts to FTHL habitat within the Yuha Desert Flat-tailed Horned Lizard Management Area. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility site is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by IID, and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-2, the Proposed Action for electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 6.9 acres of FTHL habitat within the MA.

Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility site. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the dense vegetation cover and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL.

As discussed in EIR/EA Section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of FTHLs, a BLM sensitive species, in each of the five FTHL Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one MA is consistent with the conservation objectives of the FTHL RMS. The Proposed Action's impacts to FTHL habitat within the Yuha Desert MA are within the BLM's 1% limit.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial adverse impacts to FTHL would result. However, with implementation of Mitigation Measure B2, the Weed Management Plan, the Proposed Action's construction-related indirect impacts to FTHL would be reduced.

Avian predators such as ravens, loggerhead shrikes, and American kestrels may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. Implementation of Mitigation Measure B4, specifically the *Raven Control Plan,* shall be implemented to reduce this impact.

Burrowing Owl

Construction Impact

Figure 4.12-2b above depicts the location of burrowing owls on the solar energy facility site. Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Proposed Action would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. Mitigation Measure B5 requires the project applicant to limit, to the extent practicable, site grading in the agricultural fields outside of breeding season or conduct pre-construction clearance surveys to protect nests with young or fledglings. Passive relocation may be used to evacuate adult owls from active burrows only during non-

breeding season. Mitigation Measure B5 also requires that an approved biologist prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum the survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines. Implementation of Mitigation Measure B5 would reduce construction impacts to burrowing owls by specifying requirements to avoid direct impacts to breeding birds and their young and offsetting loss of burrows at a mitigation rate of 2:1.

The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the fallow agricultural fields within the proposed solar energy facility site offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B1. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation would be reduced by permanently protecting comparable suitable habitat as directed in the ratios in Table 4.12-14.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct and indirect impact on burrowing owls. Mitigation Measure B5 includes compensation habitat (through conservation easement or similar legal instrument) for losses of foraging habitat, which will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a direct impact because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, includes speed limits (reduce direct vehicle strikes), Worker Education Program (reduce direct interactions with nesting birds), Raven Control Plan (avian and terrestrial predators), and other measures to reduce impacts during the operational phase of the project.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification with direct or indirect impacts on burrowing owls. The Proposed Action would not result in direct or indirect impacts to the burrowing owl due to lighting during O&M activities.

No equipment or component of the solar energy facility or Proposed Action transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls.

Mountain Plover

As discussed above, USFWS withdrew its proposed rule to list mountain plover as threatened under the ESA in May 2011, and therefore Section 7 consultation is not required.

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No construction impact associated with the Proposed Action will result.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. Therefore, no operation and maintenance impacts associated with the Proposed Action are expected.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under the MBIA, California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Proposed Action site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and working activity will reduce this impact.

*Operations and Maintenance Impact – E*lectrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk. The towers and/or monopoles proposed along the Proposed Action transmission line are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other

insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This spacing is adequate to ensure that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, define required through pre-construction surveys and construction-phase biological monitoring designed to minimize disturbances to vegetation to the maximum extent practicable and avoid direct impacts to any active migratory bird nests. The ABPP will require pre-construction nest surveys and establish the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during construction, such as vegetation clearing, to monitor avian foraging and behavior within the project area and to identify any potential nesting conflicts during the course of construction.

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Proposed Action would not result in direct or indirect impacts due to

migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat, and because the lights will not be on continuously.

2. Noise

No equipment or components of the solar energy facility or Proposed Action transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Proposed Action would not result in a direct or indirect noise impact to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Proposed Action transmission lines, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Proposed Action transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the Proposed Action transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission line. In addition, the Proposed Action transmission line will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. This potential indirect impact to migratory birds does not require mitigation. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds established by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collision. The framework for the ABPP is discussed further in Mitigation Measure B7

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above under Section 4.12.1.1, the proposed impact to creosote bush-white burr sage scrub, mesquite thicket, and desert wash vegetation is considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B1, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a indirect impact to the creosote bush–white burr sage scrub, desert wash, and arrow weed thicket vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, will reduce the indirect impact to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

Table 4.12-3 above shows the Proposed Action impacts to CDFG jurisdictional resources along the transmission line and within the solar facility site. No ACE jurisdictional resources are expected to be directly or indirectly impacted by the Proposed Action.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A direct impact to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action transmission line. Implementation of Mitigation Measure B8 will reduce this direct impact.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount of water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels. The substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct or indirect impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the Proposed Action transmission line would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility site, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility site, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility site is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement.

The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings.

For these reasons, the Proposed Action would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Impact to California Desert Conservation Area

Based on the analysis provided above in Section 4.12.1.1, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N". Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because the Proposed Action is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated for this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Proposed Action will not conflict with such a plan. No direct or indirect impacts are identified for this issue area, and no mitigation is necessary.

B. Alternative 1-Alternative Transmission Line Corridor

The Alternative 1-Alternative Transmission Line Corridor includes construction of the solar energy facility (R-1) and installation of monopoles and an associated access road along the alternate transmission line (IVW-2 and IVW-2A).

Impact to Vegetation Communities

Based on the analysis provided above under Section 4.12.1.2, impacts to vegetation communities within the proposed Alternative 1-Alternative Transmission Line Corridor is depicted on Figures 4.12-1a and 4.12-1b above. Table 4.12-4 above identifies the permanent and temporary impacts to vegetation communities.

Solar Energy Facility Site Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. Tamarisk thicket vegetation is not considered sensitive; thus, does not require mitigation. Desert wash vegetation and mesquite thicket is considered sensitive because these vegetation communities are native and provide habitat value for native species. As such, Alternative 1-Alternative Transmission Line Corridor would directly impact vegetation habitats on the solar energy facility site. However, those impacts would be mitigated by Mitigation Measure B9, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-16 below will reduce this impact.

The proposed solar energy facility is proposed to be sited on approximately 1,051.9 acres of fallow agricultural land that have been out of agricultural production for approximately 10-20 years, depending on the parcel, due to soil and hydrologic constraints that made the farming of field crops impractical. As a result, the Alternative 1-Alternative Transmission Line Corridor is not expected to directly or indirectly impact existing agricultural resources. While some native vegetation has recovered in specific locations, the fallow fields are very weedy and largely retain the agricultural topographic features and man-made irrigation facilities. As part of the Alternative 1-Alternative Transmission Line Corridor, the applicant will conduct habitat restoration on the solar facility site to comply with the project's Weed Management Plan, Dust Control Plan, and improve habitat conditions for native species, including FTHL, while the project is in operation. As a result, the Alternative 1-Alternative Transmission Line Corridor is expected to improve the habitat quality of the project site relative to fallow agricultural fields.

Alternative 1 Transmission Line Vegetation Impact

The Alternative 1 transmission line would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation, where access roads and footings for monopole structures would be constructed. Temporary impacts to creosote bush-white burr sage scrub would result in 6.8 acres on the proposed pullsite and monopole construction areas. These impacts will be mitigated through the implementation of Mitigation Measure B9, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-16 below will reduce this impact.

<u>Noxious, Invasive and Non-Native Weeds Impact</u>

Based on the analysis provided above under Section 4.12.1.2, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement released to the public on June 29, 2007, and implemented during construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. The

implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities.

Impact to Special Status Species

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b depicts the impacts to special status species on the Alternative 1-Alternative Transmission Line Corridor project site. As depicted in Figure 4.12-2a, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. This would result in direct impacts to FTHLs.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact.

Indirect Impacts

The Alternative 1 transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility site is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by IID, and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-5 above, the Alternative 1 transmission line electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 7.0 acres of FTHL habitat within the MA. Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility site. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, no direct or indirect impacts to FTHL would result.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that impacts to FTHL would result. However, with Implementation of Mitigation Measure B3 and B10, the Alternative 1-Alternative Transmission Line Corridor's construction-related indirect impacts to FTHL are reduced.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact.

Burrowing Owl

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on going focused breeding season surveys. Implementation of the Alternative 1-Alternative Transmission Line Corridor would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. However, with implementation of Mitigation Measure B5, which requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines, this impact would be reduced.

The creosote bush-white burr sage scrub vegetation along the Alternative 1 transmission line and the fallow agricultural fields within the proposed solar energy facility site offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Alternative 1 transmission line. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B9. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation would be reduced.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct and indirect impact on burrowing owls. Mitigation Measure B5, which includes compensation habitat for losses of foraging habitat, will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility site, including using the perimeter fence as a foraging perch. Implementation of Mitigation Measure B4, specifically speed limits and a *Worker Education Program,* will reduce this impact.

All permanent lighting within the solar energy facility site will be low-profile fixtures that point inward toward the solar energy facility site with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification with direct or indirect impact on burrowing owls. Alternative 1-Alternative Transmission

Line Corridor would not result in direct or indirect impacts to the burrowing owl due to lighting during O&M activities.

No equipment or component of the solar energy facility or Alternative 1 transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts associated with the construction of the Alternative 1-Alternative Transmission Line Corridor will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. Therefore, no impacts associated with the operations and maintenance of the Alternative 1-Alternative Transmission Line Corridor are expected.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 1–Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact.

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 1 transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related

direct and indirect impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact.

Operations and Maintenance Impact – Electrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Alternative 1 transmission line are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Alternative 1 transmission line. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require

the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility site would be low-profile fixtures that point inward toward the solar energy facility site with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Alternative 1-Alternative Transmission Line Corridor would not result in direct or indirect impacts to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously.

2. Noise

No equipment or components of the solar energy facility or Alternative 1 transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Alternative 1-Alternative Transmission Line Corridor would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Alternative 1 transmission line as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Alternative 1 transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the proposed lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the proposed route IVW-2 and IVW-2a will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. In order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds established by the resource agencies, and will institute design features that maximize

visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above in Section 4.12.1.2, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket vegetation are considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B9, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 1 transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered an indirect impact to the creosote bush–white burr sage scrub and desert wash vegetation because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, will reduce the indirect impact to these natural communities.

Impact to Jurisdictional Waters

Table 4.12-6 above shows the proposed project impacts to CDFG jurisdictional resources along the transmission line and within the solar field.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A direct impact to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the transmission Line. Implementation of Mitigation Measure B8 will reduce this impact.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels. The substrate under the panels will remain sandy and permeable,

allowing water to be absorbed into the soil. No direct impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,*that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility site, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility site, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility site is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impact wildlife movement or nursery sites.

Impact to California Desert Conservation Area

Based on the analysis above in Section 4.12.1.2, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Alternative 1 transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N". Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because Alternative 1–Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of the Alternative 1-Alternative Transmission Line Corridor will not conflict with such a plan. No direct or indirect impacts are identified and no mitigation is necessary.

C. Alternative 2-Alternative Transmission Line Corridor Vegetation Impact

The Alternative 2-Alternative Transmission Line Corridor includes the construction of solar energy facility (R-1) and the installation of monopoles, lattice towers, and an associated access road for the transmission line (IVW-1).

Solar Energy Facility Vegetation Impact

Construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. Tamarisk thicket vegetation is not considered sensitive; thus, does not require mitigation. Desert wash vegetation and mesquite thicket is considered sensitive because these vegetation communities are native and provide habitat value for native species. As such, Alternative 2-Alternative Transmission Line Corridor would directly impact vegetation habitats on the solar energy facility site. However, those impacts would be mitigated by Mitigation Measure B11, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-18 below will reduce this impact.

The proposed solar energy facility is proposed to be sited on approximately 1,051.9 acres of fallow agricultural land that have been out of agricultural production for approximately 10-20 years, depending on the parcel, due to soil and hydrologic constraints that made the farming of field crops impractical. As a result, the Alternative 2-Alternative Transmission Line Corridor is not expected to directly or indirectly impact existing agricultural resources. While some native vegetation has recovered in specific locations, the fallow fields are very weedy and largely retain the agricultural topographic features and man-made irrigation facilities. As part of the Alternative 2-Alternative Transmission Line Corridor, the applicant will conduct habitat restoration on the solar facility site to comply with the project's Weed Management Plan, Dust Control Plan, and improve habitat conditions for native species, including FTHL, while the project is in operation. As a result, the Alternative 2-Alternative Transmission Line Corridor is expected to improve the habitat quality of the project site relative to fallow agricultural fields.

Alternative 2 Transmission Line Vegetation Impact

The Alternative 2 transmission line would permanently impact 7.9 acres of creosote bush-white burr sage scrub and 0.5 acres of desert wash vegetation, where access roads and footings for monopole structures would be constructed. The Alternative 2 transmission line would temporarily impact 4.3 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible. Creosote bush-white burr sage scrub would be impacted on the pullsite, monopole, and lattice tower construction areas. These impacts will be mitigated through the implementation of Mitigation Measure B11, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-18 below will reduce this impact.

Noxious, Invasive and Non-Native Weeds Impact

Based on the analysis provided above under Section 4.12.1.3, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement released to the public on June 29, 2007, and implemented during

construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. The implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities.

Impact to Special Status Species

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b above depicts the impacts to special status species on the Alternative 2-Alternative Transmission Line Corridor project site. As depicted in Figure 4.12-2a above, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. This would result in direct impacts to FTHLs.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which

provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact.

Indirect Impacts

The Alternative 2 transmission line is within the *Yuha Desert Flat-tailed Horned Lizard Management Area*, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy.* Figure 4.12-3 above depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need for the project.

- The proposed solar energy facility site is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-1 will be located adjacent to the proposed Sunrise Powerlink.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-8 above, the Alternative 2 electrical transmission may permanently affect up to 8.4 acres and temporarily impact up to 4.5 acres of FTHL habitat within the MA. Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility site. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL. As the proposed project is expected to improve the habitat quality of the fallow agricultural fields, no direct or indirect impacts to FTHL would result.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that impacts to FTHL would result. However, with implementation of Mitigation Measures B3 and B12, the Alternative 2 transmission line's construction-related indirect impacts to FTHL are reduced.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* would reduce this impact.

Burrowing Owl

Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on-going focused breeding season surveys. Implementation of Alternative 2-Alternative Transmission Line Corridor, would grade the solar energy facility site during construction, including any berms and culverts that may host burrowing owl. However, with implementation of Mitigation Measure B5, which requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, this impact would be reduced.

The creosote bush-white burr sage scrub vegetation along the Alternative 2 transmission line and the fallow agricultural fields within the proposed solar energy facility site offer suitable habitat for this species. A total of 7.9 acres of creosote bush-white burr sage scrub will be permanently impacted by the Alternative 2 transmission line. Permanent loss of this vegetation would be mitigated with compensatory land under Mitigation Measure B11. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is reduced.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct and indirect impact on burrowing owls. Implementation of Mitigation Measure B5, which includes compensation habitat for losses of foraging habitat, will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility site is complete, burrowing owls may occur within the creosote bush-white burr sage scrub vegetation adjacent to the solar energy facility site, including using the perimeter fence as a foraging perch. Implementation of Mitigation Measure B4, specifically speed limits and a Worker Education Program, will reduce this impact.

All permanent lighting within the solar energy facility site will be low-profile fixtures that point inward toward the solar energy facility site with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification with direct or indirect impact on burrowing owls. Alternative 2-Alternative Transmission Line Corridor would not result in direct or indirect impacts to the burrowing owl due to lighting during O&M activities.

No equipment or component of the solar energy facility or Alternative 2 transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts associated with the construction of the Alternative 2-Alternative Transmission Line Corridor will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. Therefore, no impacts associated with the operations and maintenance of the Alternative 2-Alternative Transmission Line Corridor are expected.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 2–Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions would constitute an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact.

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 2 transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related direct and indirect impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment.

Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact.

Operations and Maintenance Impact – Electrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Alternative 2 transmission line are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Alternative 2 transmission line. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA and State laws.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior

within the project area and to identify and buffer any potential nesting presence during the course of construction.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility site would be low-profile fixtures that point inward toward the solar energy facility site with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Alternative 2-Alternative Transmission Line Corridor would not result in direct or indirect impacts to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously.

2. Noise

No equipment or components of the solar energy facility or Alternative 2-Alternative Transmission Line Corridor are anticipated to produce noise that would exceed ambient noise in the vicinity. The Alternative 2-Alternative Transmission Line Corridor would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Alternative 2 transmission lines, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Alternative 2 transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the Alternative 2 transmission line is situated adjacent to an existing transmission line, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. In order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the APLIC (2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds established by the resource agencies, and will institute design features that maximize

visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA.

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above in Section 4.12.1.3, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket vegetation are considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B11, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 2 transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered an indirect impact to the creosote bush–white burr sage scrub and desert wash vegetation because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, will reduce the indirect impact to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

Table 4.12-9 above shows the proposed project impacts to CDFG jurisdictional resources along the transmission line and within the solar field.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction. A direct impact to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the transmission Line. Implementation of Mitigation Measure B13 will reduce this impact.

Operations and Maintenance Impact

The proposed solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels. The substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the proposed solar energy facility site, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility site, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility site is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Therefore, the Alternative 2-Alternative Transmission Line Corridor would not directly or indirectly impact wildlife movement or nursery sites.

Impact to California Desert Conservation Area

Based on the analysis above in Section 4.12.1.3, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Alternative 2-Alternative Transmission Line Corridor is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N". Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because Alternative 2–Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of the Alternative 2-Alternative Transmission Line Corridor will not conflict with such a plan. No direct or indirect impacts are identified and no mitigation is necessary.

D. Alternative 3-Reduced Solar Energy Facility Site

The Alternative 3-Reduced Solar Energy Facility Site includes construction of the reduced solar energy facility (R-1) and monopoles and an associated access road for the transmission line (IVW-2 and IVW-2B).

Impact to Vegetation Communities

Impacts to vegetation communities within the Alternative 3-Reduced Solar Energy Facility Site project site are depicted on Figure 4.12-1a and Figure 4.12-1b above. Table 4.12-10 above identifies the permanent and temporary impacts to vegetation communities for the Alternative 3-Reduced Solar Energy Facility Site.

Reduced Solar Energy Facility Site Vegetation Impact

Based on the analysis provided above in Section 4.12.1.4, construction of the proposed solar energy facility would permanently impact 7.2 acres of tamarisk thicket, 5.7 acres of mesquite thicket, and 6.7 acres of desert wash vegetation. However, those impacts would be mitigated by Mitigation Measure B14, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-21 below will reduce this impact.

The proposed solar energy facility is proposed to be sited on approximately 1,041.6 acres of fallow agricultural land that have been out of agricultural production for approximately 10-20 years, depending on the parcel, due to soil and hydrologic constraints that made the farming of field crops impractical. As a result, the Alternative 3-Reduced Solar Energy Facility Site is not expected to directly or indirectly impact existing agricultural resources. While some native vegetation has recovered in specific locations, the fallow fields are very weedy and largely retain the agricultural topographic features and man-made irrigation facilities. As part of the Alternative 3-Reduced Solar Energy Facility Site, the applicant will conduct habitat restoration on the solar facility site to comply with the project's Weed Management Plan, Dust Control Plan, and improve habitat conditions for native species, including FTHL, while the project is in operation. As a result, the Alternative 3-Reduced Solar Energy Facility Site is expected to improve the habitat quality of the project site relative to fallow agricultural fields.

Reduced Solar Facility Site Transmission Line (Proposed Action Transmission Line) Vegetation Impact

The Proposed Action transmission line would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash vegetation. Temporary impacts to creosote bush-white burr sage scrub would result in 6.9 acres. These impacts will be mitigated through the implementation of Mitigation Measure B14, which requires the project applicant to preserve habitat in-kind, through either a direct preservation of land to be placed under a conservation easement, or a similar legal instrument such as the NFWF mitigation program used to protect the land's natural habitat value in perpetuity. The compensatory mitigation ratios defined in Table 4.12-21 below will reduce this impact.

<u>Noxious, Invasive and Non-Native Weeds</u>

Based on the analysis provided above in Section 4.12.1.4, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed in accordance with the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) released to the public on June 29, 2007, and implemented during construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Management Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities.

Impact to Special Status Species

Special Status and Priority Plants

Figure 4.12-2a and Figure 4.12-2b above depicts the impacts to special status species on the Alternative 3-Reduced Solar Energy Facility Site project site. As depicted in Figure 4.12-2a above, a permanent impact will occur to 155 Thurber's pilostyles plants and its associated Emory indigo shrubs on the solar energy facility site. Individual plants shall be relocated, when appropriate, or included as part of the restoration palette for this permanent and direct impact. Restoration standards, including potential transplantation and other conservation measures, shall be developed in coordination with the BLM and other state and/or federal agencies as appropriate.

Sensitive Wildlife

Flat-tailed Horned Lizard

Direct Impacts

Direct impacts to FTHL may occur during construction of the proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. Implementation of Mitigation Measures B3 and B15, will reduce the direct construction impact to FTHL.

General O&M activities that may be conducted along the transmission line and within the solar energy facility include equipment inspection and/or repairs, solar panel or transmission tower washing, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or within the solar energy facility. If the Concentrix solar panels are used for the solar energy facility, washing the panels would be required at least 6 times per year (as opposed to once or twice per year with the PV solar panels). Washing of the panels would require a water truck to drive on designated access roads between the panels. A high-powered sprayer or hose will be used for solar panel washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving on access roads within the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. Implementation of Mitigation Measure B3, which includes a worker environmental awareness program (WEAP) to instruct employees regarding measures to avoid and minimize impacts to sensitive species and Mitigation Measure B4, which provides a number of general mitigation measures during O&M activities, will reduce the direct O&M impact.

Indirect Impacts

The Proposed Action transmission line is within the Yuha Desert Flat-tailed Horned Lizard Management Area, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy*. Figure 4.12-3 above

depicts the project's impacts within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush-white burr sage scrub vegetation within the MA provides habitat for this species. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced to the minimum possible consistent with the purpose and need of the project.

- The proposed solar energy facility site is located outside of the Yuha MA, within fallow agricultural fields.
- The majority of the transmission line towers along IVW-2 will be located adjacent to another transmission line proposed by IID, and will share a primary access road with the proposed IID alignment for installation as well as O&M; small spur roads will extend from the proposed primary access road for access to this line.
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to protected resources in the MA.
- Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily resprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

As seen in Table 4.12-11 above, the Proposed Action transmission line for electrical transmission may permanently affect up to 6.8 acres and temporarily impact up to 6.9 acres of FTHL habitat within the MA.

Three FTHLs were observed within the fallow agricultural fields of the proposed solar energy facility site. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the fallow agricultural fields are considered occupied by this species; however the weedy vegetation and compact soils provide very low-quality habitat for this species. Habitat restoration will be conducted within the solar field after construction underneath and surrounding the solar panels, outside of the required access roads for O&M, as part of the proposed project; this restoration is expected to increase the value of the habitat from very low quality to native desert habitat that is suitable for FTHL.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that impacts to FTHL would result. However, with Implementation of Mitigation Measures B3 and B15 construction-related indirect impacts to FTHL are reduced.

Avian predators such as ravens, loggerhead shrikes, and American kestrals may be drawn to the solar energy facility due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This increase in avian predators may indirectly impact FTHL within and adjacent to the MA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation

of a *Raven Control Plan,* will minimize features that may attract ravens or other predators and will reduce this impact.

Burrowing Owl

Figure 4.12-2b above depicts the location of burrowing owls on the solar energy facility site. Two occupied burrowing owl burrows were observed within the fallow agricultural fields during on-going focused breeding season surveys. Implementation of the Alternative 3-Reduced Solar Energy Facility Site would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. This is considered a direct impact to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B5, which requires the project applicant to prepare a Burrowing Owl Management Plan, this impact would be reduced.

The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the fallow agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 6.6 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action transmission line. Permanent loss of this vegetation would be mitigated with compensatory land under Mitigation Measure B14. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is reduced.

The fallow agricultural fields and associated berms that contain the active burrowing owl burrows will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct and indirect impact on burrowing owls. Implementation of Mitigation Measure B5, which includes compensation habitat for losses of foraging habitat, will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility site is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility site, including using the perimeter fence as a foraging perch. This is considered a direct impact because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which specifically sets speed limits along all transmission line access roads and within the solar energy facility and a Worker Education Program, will reduce this impact.

All permanent lighting within the solar energy facility site will be low-profile fixtures that point inward toward the solar energy facility site with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a direct effect on burrowing owls. The Alternative 3-Reduced Solar Energy Facility Site would not result in a direct or indirect impacts due to lighting to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or proposed transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls.

Mountain Plover

Construction Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Active agricultural fields are present to the east of the project site which may provide suitable foraging habitat for the mountain plover; however, no impacts to mountain plover as a result of construction noise is expected to occur given their extreme tolerance for machinery. Furthermore, construction lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. No impacts to mountain plover associated with construction of the Alternative 3-Reduced Solar Energy Facility Site will occur.

Operations and Maintenance Impact

Mountain plovers are not expected to occur within the project area because fallow agricultural fields are considered marginal habitat. Lighting during operation and maintenance activity will be minimal and directed towards the interior of the site. This lighting is not expected to impact mountain plover, as the species is diurnal and therefore would not be moving through the area at night. Therefore, no impacts to mountain plover associated with operations and maintenance of the Alternative 3-Reduced Solar Energy Facility Site are expected.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 3-Reduced Solar Energy Facility site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact.

Operations and Maintenance Impact – Electrocution

The APLIC 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the

length or skin-to-skin contact distance of birds (CEC 2002a). The distance between energized components along transmission lines (> 69 kV) is generally insufficient to present avian electrocution risk.

The towers and/or monopoles proposed along the Proposed Action transmission line are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010e) and the APLIC (2006), and will include a wildlife mortality reporting program. Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with MBTA.

Migratory Birds

"Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests cause by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests through pre-construction surveys and biological monitoring during construction. Pre-construction nest surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impacts to any active migratory bird nest will be avoided by establishing the specific avoidance buffers (as appropriate). Additionally, the ABPP will require the presence of a biological monitor during vegetation clearing to monitor avian foraging and behavior within the project area and to identify and buffer any potential nesting presence during the course of construction.

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility site would be low-profile fixtures that point inward toward the solar energy facility site with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In

addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Alternative 3-Reduced Solar Energy Facility Site would not result in direct or indirect impacts to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously

2. Noise

No equipment or components of the solar energy facility or the Proposed Action transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Alternative 3-Reduced Solar Energy Facility Site would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the Proposed Action transmission lines, as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Proposed Action transmission lines are situated running northwest from the substation to the solar energy facility and run parallel to the migratory flyaway.

The fact that the Proposed Action transmission lines do not run perpendicular to migratory flight patterns and do not bisect the canals and agricultural fields, but are instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the Proposed Action transmission line will be situated adjacent to another transmission line proposed by the IID, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

As the agricultural fields to the east act as the primary breeding and foraging habitat for migratory birds in the vicinity, the transmission line is situated within the creosote bush–white burr sage scrub vegetation to avoid much of the avian migratory traffic. In order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an ABPP will be developed that will incorporate guidance from USFWS (2010d) and the (APLIC 2006), and will include a wildlife mortality reporting program that includes adaptive management measures to be implemented if wildlife mortality exceeds thresholds established by the resource agencies, and will institute design features that maximize visibility of the transmission lines to minimize collision. This ABPP is discussed further in Mitigation Measure B7, and will provide the applicant the vehicle to comply with the MBTA and State laws.

<u>Impact to Riparian Habitat or Sensitive Natural Communities</u>

<u>Construction Impact</u>

Based on the analysis provided above in Section 4.12.1.4, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket vegetation are considered a direct impact and would

require mitigation to offset these impacts to sensitive habitats. Implementation of Mitigation Measure B14, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered an indirect impact to the creosote bush–white burr sage scrub and desert wash vegetation because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, will reduce the indirect impact to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the state and waters of the U.S. are under the jurisdiction of RWQCB. Table 4.12-12 above shows the Alternative 3-Reduced Solar Energy Facility Site impacts to ACE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the solar energy facility was identified during the initial jurisdictional delineation as a feature over which the ACE will not exert jurisdiction. If this feature is considered jurisdictional, it will be avoided during construction of the proposed solar energy facility and no mitigation will be required. The irrigation channels within the fallow agricultural fields are man-made structures and are also being reviewed by the ACE as possible features considered exempt from the jurisdiction.

A temporary impact to ACE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action transmission line. Implementation of Mitigation Measure B8 will reduce this impact.

Operations and Maintenance Impact

The reduced solar energy facility will use approximately 5 acre-feet of water per year to clean the solar panels and for fire protection, and for use in the on-site office. The small amount water used for solar panel cleaning at a given time is not expected to be substantial to result in run-off or soil erosion into adjacent jurisdictional drainages or channels because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct or indirect impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a

minimization of habitat disturbance along the transmission lines would ensure the continued ability of wildlife to move freely through the project area.

A chain link fence will surround the reduced solar energy facility site, allowing small mammals and reptiles to move freely through the site. Although medium- and large-sized mammals will not be able to move through the solar energy facility site, it should not inhibit their movement through the Yuha Basin. Currently the proposed solar energy facility site is bisected by Interstate 8. While many terrestrial species cross over the freeway to move from north to south through the area, it likely limits the amount of wildlife movement. The two corridors in the vicinity that allow wildlife to cross freely from north to south without crossing the interstate are found at the Dunaway Road freeway on-ramp/exit-ramp, allowing wildlife to cross over on the Dunaway Road freeway overpass, and the Westside Main Canal maintenance road that runs underneath Interstate 8. Neither of these roads will be disturbed by the proposed construction, and medium- to large-sized mammals will continue to have access to these crossings. Thus there is no anticipated impact to wildlife movement or nursery sites, and no additional mitigation would be required.

For these reasons, the Alternative 3-Reduced Solar Energy Facility Site would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Impact to California Desert Conservation Area

Based on the analysis above in Section 4.12.1.4, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because Alternative 3-Reduced Solar Energy Facility Site is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of the Alternative 3-Reduced Solar Energy Facility Site will not conflict with such a plan. No direct or indirect impacts are identified, and no mitigation is necessary.

E. Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no impacts on biological resources from the Alternative 4-No Action/No Project Alternative.

4.12.3 Mitigation Measures and Residual Impacts

4.12.3.1 Proposed Action

B1 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash vegetation, and mesquite thicket requires the project applicant to place like habitat in the ratios established in Table 4.12-13 under conservation easement or similar legal instrument providing for the long-term protection for each preserved vegetation community. The preserved creosote bush-white burr sage scrub habitat under this requirement B1 will satisfy the habitat preservation component for FTHL, consistent with the BLM FTHL RMS. Compensatory habitat for desert wash vegetation incorporates requisite mitigation from CDFG and, to the extent applicable, ACE, pursuant to jurisdictional resources policies discussed in Section 3.11 and 4.11 of this EIR/EA. The agencies and the project applicant will identify appropriate lands that contain the same habitat characteristics of the impacted areas and not in an area subject to potential future disturbance. The agencies and project applicant will also work together to find compensatory habitat areas that provide the greatest conservation benefit to the species associated with the vegetation communities, such as selecting areas that provide movement corridors or areas that provide high value habitat outside of the urban development areas.

B2 Noxious, Invasive and Non-Native Weeds

To minimize the introduction and spread of weed species a weed management plan will be developed and implemented. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project.

General measures to prevent the spread of weeds include:

- Limiting disturbance areas during construction to the minimal required to perform work and limiting ingress and egress to defined routes
- Maintaining vehicle wash and inspection stations, and closely monitoring the types of materials brought onto the site to minimize the potential for weed introduction
- Use of certified weed free mulch, straw wattles, hay bales and seed mixes
- Reestablishing native vegetation as quickly as practicable on disturbed sites as the most effective long-term strategy to avoid weed invasions
- Monitoring and rapid implementation of control measures to ensure early detection and eradication for need weed invasions

Invasive plants species on BLM lands would be prevented, controlled, and treated through an Integrated Pest Management approach per the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER 2007).*

TABLE 4.12-13
Proposed Action Vegetation Community Mitigation Requirements

Vegetation Communities/Land Cover Types	Proposed Action Impacts (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads	6.6	6:1	39.6
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings	-		-
CBS Sub-total	*6.6*		*39.6*
Desert Wash (DW)			
Solar Energy Facility	6.7	2:1	13.4
Access roads	0.2	6:1	1.2
Lattice tower footings	-		-
DW Sub-total	*6.9*		*14.6*
Mesquite Thicket (MT)	5.7	1:1	5.7
Tamarisk Thicket (TT)	7.2	-	-
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	-
Permanent Impact Totals	1,078.3		59.9
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite	0.1	6:1	0.6
Monopole work areas	6.8	6:1	40.8
Lattice tower work areas	-		
CBS Sub-total	*6.9*	6:1	*41.4*
Desert Wash (DW)			
Lattice tower sites	-		
DW Sub-total	-		
Temporary Impact Totals	6.9		41.4
Total Proposed Action Impacts	1085.2		101.3

Source: RECON Environmental, Inc., 2010.

Weed control methods that may be used included both physical and chemical control. Physical control methods include manual hand pulling of weeds, or the use of hand and power tools to uproot, girdle, or cut plants. Herbicide applications are a widely used, effective control method for removing infestations of invasive weed species. However, inadvertent application of herbicide to adjacent native plants must be avoided, which can often be challenging when weeds are interspersed with native cover. Before applying herbicide, contractors will be required to obtain any required permits from state and local authorities. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations, including the *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS) released to the public on June 29, 2007. Only herbicides and adjuvants approved by the BLM in California for use on public lands will be used

within or adjacent to the project site. Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP).

The Record of Decision (ROD) for the *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* includes standard operating procedures (SOPs) for applying herbicides (summarized in Appendix B, Table B-2 pages B-9 to B-14 of the ROD) and mitigation measures (summarized in Table 2, pages 2-4 to 2-6 of the ROD) that were adopted to ensure that all practicable means to avoid or minimize environmental harm is implemented in these vegetation treatment projects. The Human Health Risk Assessment (PEIS, Appendix B) and Ecological Risk Assessment (PEIS, Appendix C) include an analysis of impacts to resources and human health. This EIR/EA tiers to the both the human health and ecological risk assessments, the resource analyses related to the SOPs, and resource analyses related to the mitigation measures in the PEIS.

B3 Flat-tailed Horned Lizard (FTHL)

Construction Measures

In accordance with the *FTHL Rangewide Management Strategy* (ICC 2003), the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. The following will be implemented when conducting construction activities on the transmission line and within the creosote bush-white burr sage scrub vegetation in the southwestern corner of the solar energy facility:

1. Prior to ground disturbing activities, an individual shall be designated and approved by the USFWS and BLM as a Designated Biologist[1] (i.e. field contact representative). A Designated Biologist will be designated for the period during which on-going construction and post-construction monitoring and reporting by an approved biologist is required, such as annual reporting on habitat restoration. Each successive Designated Biologist will be approved by the BLM's Authorized Officer (i.e., BLM field manager, El Centro).

   The Designated Biologist will have the authority to ensure compliance with the conservation measures for the FTHL and will be the primary agency contact for the implementation of these measures. The Designated Biologist will have the authority and responsibility to halt activities that are in violation of the conservation measures. A detailed list of responsibilities for the Designated Biologist is summarized below. To avoid and minimize impacts to biological resources, the Designated Biologist will:

[1] A qualified Designated Biologist must have (1) a bachelor's degree with an emphasis in ecology, natural resource management, or related science; (2) three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or the Wildlife Society (3) previous experience with applying terms and conditions of a biological opinion; and, (4) the appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.

- Notify BLM's Authorizing Officer and the USFWS at least 14 calendar days before initiating ground disturbing activities.
- Immediately notify BLM's Authorized Officer and the USFWS in writing if the Project applicant is not in compliance with any conservation measures, including but not limited to any actual or anticipated failure to implement conservation measures within the time periods specified.
- Conduct compliance inspections at a minimum of once per month during on-going construction after clearing, grubbing, and grading are completed, and submit a monthly compliance report to BLM's Authorized Officer until construction is complete.

2. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with stakes and flagging prior to construction activities. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor. To the extent possible, disturbance of shrubs and surface soils due to stockpiling will be minimized. All disturbances, vehicles, and equipment will be confined to the flagged areas. To the extent possible, surface disturbance will be timed to minimize mortality to FTHL (see FTHL Construction Measure #7 below).

3. Approved biological monitor(s) will assist the Designated Biologist in conducting pre-construction surveys and in monitoring of mobilization, ground disturbance, grading, construction, operation, closure, and restoration activities. The biological monitor(s) will have experience conducting FTHL field monitoring, have sufficient education and field experience to understand FTHL biology, be able to identify FTHL scat, and be able to identify and follow FTHL tracks. The Designated Biologist will submit the resume, at least three references, and contact information of the proposed biological monitors to the BLM, CDFG, and USFWS for approval. To avoid and minimize impacts to biological resources, the Biological Monitors will assist the Designated Biologist with the following:

   - Be present during construction (e.g., grubbing, grading, solar panel installation) activities that take place in FTHL habitat to avoid or minimize take of FTHL. Activities include, but are not limited to, ensuring compliance with all impact avoidance and minimization measures, monitoring for FTHLs and removing lizards from harm's way, and checking avoidance areas (e.g., washes) to ensure that signs, and stakes are intact and that human activities are restricted in these avoidance zones.
   - At the end of each work day, inspect all potential wildlife pitfalls (trenches, bores and other excavations) for wildlife and then backfill. If backfilling is not feasible, all trenches, bores, and other excavations will be contoured at a 3:1 slope at the ends to provide wildlife escape ramps, or completely and securely covered to prevent wildlife access.
   - During construction, examine areas of active surface disturbance periodically, at least hourly, when surface temperatures exceed 29°Celsius (C; 85°F) for the presence of FTHL.

4. FTHLs will be removed from harm's way during all construction activities, per conservation measure #6 below. FTHL removal will be conducted by two or more biological monitors when construction activities are being conducted in suitable FTHL habitat. To the extent feasible, methods to find FTHLs will be designed to achieve a maximal capture rate and will include, but not be limited to using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 ha (30 minutes per 1 ac). Persons that handle FTHLs will first obtain all necessary permits and authorization from the CDFG. FTHL removal surveys will also include:

   - A Horned Lizard Observation Data Sheet and a Project Reporting Form, per Appendix 8 of the RMS, will be completed. During construction, quarterly reports describing FTHL removal activity, per the reporting requirements described in Conservation Measure #1 above, will be submitted to the BLM.

5. The removal of FTHLs out of harm's way will include relocation to nearby suitable habitat in low-impact (e.g., away from roads and solar panels) areas of the Yuha MA. Relocated FTHLs will be placed in the shade of a large shrub in undisturbed habitat. If surface temperatures in the sun are less than 24° Celsius (C) 75° Fahrenheit (F) or exceed 38°C (100° F), the Designated Biologist or biological monitor, if authorized, will hold the FTHL for later release. Initially, captured FTHLs will be held in a cloth bag, cooler, or other appropriate clean, dry container from which the lizard cannot escape. Lizards will be held at temperatures between 75° F and 90° F and will not be exposed to direct sunlight. Release will occur as soon as possible after capture and during daylight hours. The Designated Biologist or biological monitor will be allowed some judgment and discretion when relocating lizards to maximize survival of FTHLs found in the Project area.

6. To the maximum extent practicable, grading in FTHL habitat will be conducted during the active season, which is defined as March 1 through September 30, or if ground temperatures are between 24°C (75° F) and 38 °C (100° F). If grading cannot be conducted during this time, any FTHLs found will be removed to low-impact areas (see above) where suitable burrowing habitat exists, (e.g., sandy substrates and shrub cover).

7. Temporarily disturbed areas associated with transmission line construction and staging areas, will be revegetated according to a Habitat Restoration Plan (HRP) approved by the BLM, CDFG, and Service. The HRP must be approved in writing by the aforementioned agencies prior to the initiation of any vegetation disturbing activities. Restoration involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.), and monitoring the restored area for a period of 5 years (or less if the restoration meets all success criteria). Components of the HRP will include:

   - The incorporation of Desert Bioregion Revegetation/Restoration Guidance measures. These measures generally include alleviating soil compaction, returning the surface to its original contour, pitting or imprinting the surface to allow small areas where seeds and rain

water can be captured, planting seedlings that have acquired the necessary root mass to survive without watering, planting seedlings in the spring with herbivory cages, broadcasting locally collected seed immediately prior to the rainy season, and covering the seeds with mulch.

Operations and Maintenance Measures

In order to reduce the potential impact to FTHL during O&M, the following will be implemented when conducting O&M along the transmission line and within the solar energy facility:

8. No later than January 31 of every year the Project remains in operation, the Designated Biologist will provide the BLM's Authorized Officer, and the FTHL Interagency Coordinating Committee (ICC) an annual FTHL Status Report, which will include, at a minimum:
   - A general description of the status of the project site
   - A copy of the table in the Project biological monitoring report with notes showing the current implementation status of each conservation measure.
   - An assessment of the effectiveness of each completed or partially completed measure in avoiding and minimizing project impacts
   - A completed a Project Reporting Form from the Flat-tailed Horned Lizard Rangewide Management Strategy (RMS) (ICC 2003)
   - A summary of information regarding any FTHL mortality in conjunction with the Project's Wildlife Mortality Reporting Program.
   - Recommendations on how conservation measures might be changed to more effectively avoid, minimize, and offset future project impacts on the FTHL.

9. The Designated Biologist or biological monitor(s) will evaluate and implement the best measures to reduce FTHL mortality along access and maintenance roads, particularly during the FTHL active season (March 1 through September 30). These measures will include:
   - A speed limit of 15 miles per hour when driving transmission line access roads or maintenance roads within the solar energy facility. The Designated Biologist may reduce this speed limit to 10 mph in areas identified as active wildlife corridors as needed to reduced mortality. All vehicles required for O&M along the transmission line and within the solar energy facility must remain on the designated access/maintenance roads. Cross country vehicle and equipment use outside of designated work areas shall be prohibited.
   - Pedestrian access outside of the designated access roads is permitted year-round as long as no ground-disturbing activities take place (such as weed abatement or other activities that would require soil disturbance beyond pedestrian footprints). This pedestrian access includes occasional inspections of solar panels and other on-site facilities.

- O&M activities including weed abatement, or any other O&M activity that may result in ground disturbance outside of the designated access roads will be conducted outside of the FTHL active season whenever feasible.
- If any O&M activities must be conducted during the FTHL active season that may result in ground disturbance, such as weed abatement, washing of solar panels, or vehicles requiring access outside of a designated access road, a biological monitor will be present during activities to reduce FTHL impacts.

Implementation of these measures would be based on annual FTHL activity levels, the best professional judgment of the Designated Biologist, and site specific road utilization. FTHL found on access/maintenance roads will be relocated out of harm's way by the DB or qualified FTHL monitor.

Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation would be required for impacts to FTHL habitat, as shown in Table 4.12-14.

FTHL are known to occur in the creosote bush–white burr sage scrub and desert wash vegetation along the proposed transmission corridors. In accordance with the *Rangewide Management Strategy*, compensation for impacts to this habitat within the MA will be at a 6:1 ratio.

TABLE 4.12-14
Proposed Action
Flat-tailed Horned Lizard Habitat Mitigation Requirements

	Proposed Action Impacts (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
Permanent Impact			
Inside FTHL MA			
Access roads	6.8	6:1	40.8
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings			-
Permanent Impact Totals	6.8		40.8
Temporary Impact			
Inside FTHL MA			
Pullsite	0.1	6:1	0.6
Monopole work areas	6.8	6:1	40.8
Lattice tower work areas	-		
Temporary Impact Total	6.9		41.4
Total Proposed Action Impacts	13.7		82.2

Source: RECON Environmental, Inc., 2010.

B4 General Project Mitigation Recommendations

A number of general measures, designed to reduce potential indirect impact to resources in the project area as well as restore and/or improve the quality of habitat in the project area, will be implemented after construction as standard operations and maintenance protocols. In order to reduce the potential impact to biological resources during operations and maintenance, the following will be implemented:

1. Speed limits along all transmission access roads and within the solar energy facility will not exceed 15 miles per hour. Transmission access for O&M activities shall be kept to the minimum necessary for operations and be accomplished during the winter months when feasible. This limited access and annual timing is designed to prevent FTHL mortality.
   - Worker Education
2. A *Raven Control Plan* will be prepared and implemented that details specific measures for storage and disposal of all litter and trash produced by the solar energy facility and its employees. This plan is designed to discourage scavengers that may also prey on wildlife in the vicinity. This plan will be approved by the BLM and CDFG prior to construction.
3. A *Wildlife Mortality Reporting Program* will be prepared and implemented to identify and report any dead or injured animals observed by personnel conducting O&M activities within the solar energy facility and along the transmission line. An appropriate reporting format for dead or injured wildlife observed within the solar energy facility and along the transmission line will be developed in coordination with the USFWS and the BLM prior to the Decision Record. In addition, reporting of any dead or injured avian species found along the transmission line will follow the existing USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov/).
4. An *Avian and Bat Protection Plan* (ABPP) will be approved as a condition of the Notice to Proceed. The ABPP specifies measures to avoid impacts to avian and bat species that could result from ground-disturbing activities associated with the construction of the solar energy facility, transmission line structures and spur roads, O&M building, and the staging and laydown areas, as well as operational conditions, such as collisions with equipment. The ABPP will include the following:
   - measures to avoid/minimize disturbance of active bird nests during construction and operations
   - design guidelines for overhead transmission utilities to enhance the visibility of the lines to avian species and reduce avian mortality
   - avian fatality monitoring, reporting, and adaptive management requirements

   These measures will incorporate APLIC design guidelines for overhead utilities (2006) and/or incorporating other methods that enhance the visibility of the lines to avian species. The ABPP will also incorporate, as appropriate, components of the Wildlife Mortality Reporting Program and Raven Control Plan discussed above.

5. Prior to Project initiation, a worker environmental awareness program (WEAP) will be established for all employees and any subcontractors at the ISEC West and made available in both English and Spanish. Wallet-sized cards summarizing this information will be provided to all construction, operation, and maintenance personnel. The education program will include the following aspects:
   - provide instruction on sensitive species identification;
   - measures to avoid contact, disturbance, and injury;
   - reporting procedures in the case of dead and/or injured wildlife species.
   - biology and status of the FTHL,
   - protection measures designed to reduce potential impact to the species,
   - function of flagging designating authorized work areas,
   - reporting procedures to be used if a FTHL is encountered in the field, and driving procedures and techniques, for commuting to, and driving on, the Project site, to reduce mortality of FTHL on roads.
   - BLM shall be notified per approved guidelines and channels of authority if mortality should occur.

   A brief Annual Report will be submitted to the relevant resource agencies documenting the implementation of the above general measures as well as any resource-specific measures specified in Mitigation Measures B1 – B8, including habitat restoration and/or compensation requirements.

B5 Burrowing Owl

Burrowing owls have been observed in the fallow agricultural fields within the proposed solar energy facility. The following measures will avoid, minimize, or mitigate potential impact to burrowing owl during construction activities as discussed above in this section:

1) Initial grading of the agricultural fields project footprint will take place between September 1 and January 31 to avoid impact to breeding burrowing owls.

   If construction is to begin during the breeding season, the measures below will be implemented prior to February 1 to discourage the nesting of the burrowing owls within the area of impact. As construction continues, any area where owls are sighted should be subject to frequent surveys for burrows before the breeding season begins, so that owls can be relocated before nesting occurs.

2) Within 30-days prior to initiation of construction, a pre-construction clearance surveys for this species shall be conducted to determine the presence or absence of this species within the construction area. This is necessary, as burrowing owls may not use the same burrow every year; therefore, numbers and locations of burrowing owl burrows at the time of construction may differ from the data collected during previous focused surveys. The proposed construction areas will need to be clearly demarcated in the field by the project engineers

prior to the commencement of the pre-construction clearance survey. The survey should follow the protocols provided in the *Burrowing Owl Survey Protocol and Mitigation Guidelines*.

3) If active burrows are present within the project footprint, the following mitigation measures will be implemented. Passive relocation methods are to be used to move the owls out of the impact zone. Passive relocation should only be done in the non-breeding season. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow, but will exclude any animals from re-entering the burrow. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. The burrows should then be excavated and filled in to prevent their reuse. The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts. The construction of new burrows will take place on BLM land to the north or south of the solar field, and outside of the proposed transmission corridor; any relocated burrows onto BLM lands will be approved by the agencies to prevent conflicts in future land use.

4) As the construction schedule and details are finalized, an approved biologist shall prepare a monitoring plan that will detail the methodology proposed to minimize and mitigate impact to this species. Passive relocation, destruction of burrows, and construction of artificial burrows can only be completed upon approval by CDFG.

Compensation

CDFG's mitigation guidelines for burrowing owl (1995) requires a minimum of 6.5 acres of foraging habitat per pair or unpaired resident bird to be acquired and protected to offset the loss of foraging and burrow habitat on the project site.

Assuming the project impacts to two active burrows, a minimum of 13 acres would be permanently protected to offset this loss. This mitigation would be implemented in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B1/B3, provided at least 13 acres of the FTHL mitigation contains suitable habitat for burrowing owl and is approved by CDFG. If FTHL mitigation is in the form of an in lieu fee to be used within the Yuha MA, which also provides suitable habitat for BUOW, it is assumed that the BLM or ICC's use of the funds within the MA will also improve or increase habitat for BUOW and will therefore fulfill the BUOW mitigation requirement.

B6 Nesting Raptors

Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures should be implemented:

- Initial grading and construction within the Proposed Action site should take place outside the raptors' breeding season of February 1 to July 15.
- If construction occurs between February 1 and July 15, a qualified biologist shall conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees or transmission towers) that occurs within 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until a qualified biologist determines that the fledglings are independent of the nest.

Operations and Maintenance Impact Mitigation

Mitigation for potential impact to raptors and other avian species due to collision with the proposed transmission lines are discussed below in B7 Migratory Birds and Other Sensitive Non-migratory Species.

B7 Migratory Birds and Other Sensitive Non-migratory Bird Species

In order to reduce the potential indirect impact to migratory birds, bats and raptors, an ABPP will be prepared following the USFWS's guidelines and then implemented by the Project proponent. This ABPP will outline conservation measures for construction and O&M activities that reduce potential impacts to bird populations and will be developed by the applicant in conjunction with and input from the USFWS.

Construction Measures

Construction conservation measures to be incorporated into the ABPP include:

- Minimizing disturbance to vegetation where birds may be foraging or nesting to the maximum extent practicable; this will minimize disturbance to bird species.
- Clearing vegetation outside of the breeding season, which ensures nesting birds and young/fledglings will not be disturbed. If construction occurs between February 1 and September 15, a qualified biologist shall conduct a pre-construction clearance survey for nesting birds in suitable nesting habitat that occurs within the proposed area of impact. Pre-construction nesting surveys will identify any active migratory birds, including raptors and other sensitive non-migratory birds nests. Direct impact to any active migratory bird nests should be avoided. This measure allows biologists to direct construction activities away from active nests and establish appropriate buffers between construction activities and nests so as to avoid distressed parent birds, which may lead to nest abandonment or reduced foraging efficiency.
- A biological monitor will be present during vegetation clearing to monitor birds' foraging and behavior within the project area to identify any potential nesting conflicts during the course of construction. The biological monitor has the authority to stop or redirect construction activities to avoid direct and indirect impacts to nesting birds and their young.
- Minimize wildfire potential, which would reduce potential direct impacts to birds, as well as potential losses to foraging habitat.

- Minimize activities that attract prey and predators that may prey on some bird species, e.g., burrowing owl.
- Control of non-native plants. Non-native plants can change the vegetation community in ways that make once favorable habitat conditions adverse or alter the ecology of the affected area by favoring other non-native species that compete with a bird species for resources.
- Apply APLIC design guidelines for overhead utilities (APLIC 2006) and/or other methods that enhance the visibility of the project's transmission lines to avian species to prevent direct strikes.

Operations and Maintenance Measures

O&M conservation measures to be incorporated into the ABPP include:

- Preparation of a Raven Control Plan that avoids introducing water and food resources that would increase predatory scavenger species in the area surrounding the solar energy facility.
- Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with transmission facilities (APLIC 2006).
- Minimize noise, which can drown out bird species calls for mating or other purposes.
- Minimize use of outdoor lighting that may make detecting prey easier for predators.
- Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program

Each of the above measures address impacts to migratory bird species that may be introduced by the Proposed Action's construction and operation phases. The ABPP is intended to be a comprehensive planning document to avoid and minimize project impacts to bird species.

B8 Jurisdictional Waters

The proposed project will impact a total of up to 0.5 acres of ACE jurisdictional resources, and 7.2 acres of CDFG jurisdictional resources. A breakdown of permanent and temporary impacts, as well as the mitigation required to offset these impacts are shown for all of the alternatives in Table 4.12-15.

Mitigation for these impacts will be conducted in concert with the purchase/acquisition of compensatory habitat as detailed in Mitigation Measure B1. As the acreage for FTHL mitigation well exceeds the amount required for impacts to CDFG resources, it is not anticipated that additional mitigation would be necessary as long as the FTHL mitigation meets the requirements and approval of CDFG and ACE as mitigation for their jurisdictional resources as well.

TABLE 4.12-15
Proposed Action Mitigation Requirements for Jurisdictional Resources

	Proposed Action Impacts (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads	0.3	1:1	0.3
Monopole footings	<0.1	1:1	<0.1
Lattice tower footings			
Permanent ACE- total	*0.3*		*0.3*
CDFG- Riparian			
Solar Energy Facility*	5.7	2:1	11.4
Access roads	0.3	2:1	0.6
Monopole footings	<0.1	2:1	<0.1
Lattice tower footings			
Riparian Sub-total	*6.0*	2:1	*12.0*
CDFG- Streambed			
Solar Energy Facility*	0.9	1:1	0.9
Access roads	0.1	1:1	0.1
Monopole footings	<0.1	1:1	<0.1
Lattice tower footings			
Streambed Sub-total	*1.0*	1:1	*1.0*
Permanent CDFG- total	*7.0*		*13.0*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas	0.2	1:1	0.2
Lattice tower work areas	-		
Temporary ACE-NWW total	*0.2*	-	*0.2*
CDFG- Riparian			
Monopole work areas	0.2	1:1	0.2
Lattice tower work areas			
Riparian Sub-total	*0.2*	1:1	*0.2*
CDFG- Streambed			
Monopole work areas	<0.1	1:1	<0.1
Lattice tower work areas			
Streambed Sub-total	*<0.1*	1:1	<0.1
Temporary CDFG- total	*0.2*	-	*0.2*
ACE TOTAL	*0.5*		*0.5*
CDFG TOTAL	*7.2*		*13.2*

Source: RECON Environmental, Inc., 2010.

Impact to jurisdictional waters of the U.S. on-site would require a permit under Section 404 CWA from the ACE and a Section 401 state water quality certification from the RWQCB. In addition, a Section 1600 Streambed Alteration Agreement would also need to be authorized to address impacts to CDFG resources.

4.12.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures B2 through B8 identified above in Section 4.12.3.1 for the Proposed Action will also be implemented for the Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

B9 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash vegetation, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-16 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

B10 Flat-tailed Horned Lizard Habitat Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in Mitigation Measure B3. Compensation specific to the Alternative 1-Alternative Transmission Line Corridor is shown in Table 4.12-17.

4.12.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measures B2 through B7 identified above in Section 4.12.3.1 for the Proposed Action will also be implemented for the Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

B11 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash vegetation, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-18 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

B12 Flat-tailed Horned Lizard Habitat Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in Mitigation Measure B3. Compensation specific to the Alternative 2-Alternative Transmission Line Corridor is shown in Table 4.12-19.

TABLE 4.12-16
Alternative 1-Alternative Transmission Line Corridor Vegetation Community Mitigation Requirements

Vegetation Communities/Land Cover Types	Alternative 1-Alternative Transmission Line Corridor Impacts (acres)	Mitigation Ratio	Alternative 1-Alternative Transmission Line Corridor Mitigation Required (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads	6.6	6:1	39.6
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings	-		-
CBS Sub-total	*6.6*		*39.6*
Desert Wash (DW)			
Solar Energy Facility	6.7	2:1	13.4
Access roads	0.2	6:1	1.2
Lattice tower footings	-		-
DW Sub-total	*6.9*		*14.6*
Mesquite Thicket (MT)	5.7	1:1	5.7
Tamarisk Thicket (TT)	7.2	-	-
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	-
Permanent Impact Totals	1,078.3		59.9
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite	0.4	6:1	2.4
Monopole work areas	6.4	6:1	38.4
Lattice tower work areas	-		
CBS Sub-total	*6.8*	6:1	*40.8*
Desert Wash (DW)			
Lattice tower sites	-		
DW Sub-total	-		
Temporary Impact Totals	6.8		40.8
Total Alternative 1-Alternative Transmission Line Corridor Impacts	1085.1		100.7

Source: RECON Environmental, Inc., 2010.

TABLE 4.12-17
Alternative 1-Alternative Transmission Line Corridor Flat-tailed Horned Lizard Habitat Mitigation Requirements

	Alternative 1-Alternative Transmission Line Corridor Impacts (acres)	Mitigation Ratio	Alternative 1-Alternative Transmission Line Corridor Mitigation Required (acres)
Permanent Impact			
Inside FTHL MA			
Access roads	6.8	6:1	40.8
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings			
Permanent Impact Totals	6.8		**40.8**
Temporary Impact			
Inside FTHL MA			
Pullsite	0.4	6:1	2.4
Monopole work areas	6.4	6:1	38.4
Lattice tower work areas	-		
Inside Sub-total	*6.8*		*40.8*
Temporary Impact Total	6.8		**40.8**
Total Alternative 1-Alternative Transmission Line Corridor Impacts	1072.2		**81.6**

Source: RECON Environmental, Inc., 2010.

TABLE 4.12-18
Alternative 2-Alternative Transmission Line Corridor Vegetation Community Mitigation Requirements

Vegetation Communities/Land Cover Types	Alternative 2-Alternative Transmission Line Corridor Impacts (acres)	Mitigation Ratio	Alternative 2-Alternative Transmission Line Corridor Mitigation Required (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads	7.9	6:1	47.4
Monopole footings			
Lattice tower footings	<0.1	6:1	<0.1
CBS Sub-total	*7.9*	*6:1*	*47.4*
Desert Wash (DW)			
Solar Energy Facility	6.7	2:1	13.4
Access roads	0.5	6:1	3.0
Lattice tower footings	<0.1	6:1	<0.1
DW Sub-total	*7.2*		*16.4*
Mesquite Thicket (MT)	5.7	1:1	5.7
Tamarisk Thicket (TT)	7.2		
Abandoned (Fallow) Agriculture (AA)	1,051.9	-	-
Permanent Impact Totals	1079.9		69.5
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite	0.3	6:1	1.8
Monopole work areas	0.4	6:1	2.4
Lattice tower work areas	3.6	6:1	21.6
CBS Sub-total	*4.3*	6:1	*25.8*
Desert Wash (DW)			
Lattice tower sites	0.2	6:1	1.2
DW Sub-total	*0.2*	6:1	*1.2*
Temporary Impact Totals	4.5		27.0
Total Alternative 2-Alternative Transmission Line Corridor Impacts	1084.4		96.5

Source: RECON Environmental, Inc., 2010.

TABLE 4.12-19
Alternative 2-Alternative Transmission Line Corridor
Flat-tailed Horned Lizard Habitat Mitigation Requirements

	Alternative 2-Alternative Transmission Line Corridor Impacts (acres)	Mitigation Ratio	Alternative 2-Alternative Transmission Line Corridor Mitigation Required (acres)
Permanent Impact			
Inside FTHL MA			
Access roads	8.4	6:1	50.4
Monopole footings			
Lattice tower footings	<0.1	6:1	<0.1
Permanent Impact Totals	1067.0		50.4
Temporary Impact			
Inside FTHL MA			
Pullsite	0.3	6:1	1.8
Monopole work areas	0.4	6:1	2.4
Lattice tower work areas	3.8	1:1	22.8
Temporary Impact Total	4.5		27.0
Total Alternative 2-Alternative Transmission Line Corridor Impacts	1071.5		77.4

*Mitigation for impacts to fallow agricultural land is at a 0.5:1 ratio to be mitigated on-site in the form of habitat enhancement.

B13 Jurisdictional Resources Compensation

The Alternative 2-Alternative Transmission Line Corridor will impact a total of 1.1 acres of ACE jurisdictional resources, and 7.7 acres of CDFG jurisdictional resources. A breakdown of permanent and temporary impacts, as well as the mitigation required to offset these impacts are shown for all of the alternatives in Table 4.12-20.

Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B3. As the acreage for FTHL mitigation well exceeds the amount required for impacts to CDFG resources, it is not anticipated that additional mitigation would be necessary as long as the FTHL mitigation meets the requirements and approval of CDFG and ACE as mitigation for their jurisdictional resources as well.

4.12.3.4 Alternative 3 –Reduced Solar Energy Facility Site

Mitigation Measures B2 through B8 identified above in Section 4.12.3.1 for the Proposed Action will also be implemented for the Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

B14 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash vegetation, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-21 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

TABLE 4.12-20
Alternative 2-Alternative Transmission Line Corridor Mitigation Requirements for Jurisdictional Resources

	Alternative 2-Alternative Transmission Line Corridor Impacts (acres)	Mitigation Ratio	Alternative 2-Alternative Transmission Line Corridor Mitigation Required (acres)
Permanent Impact			
ACE- Non-wetland waters			
Access roads	0.8	1:1	0.8
Monopole footings			
Lattice tower footings	<0.1	1:1	<0.1
Permanent ACE- total	*0.8*		*0.8*
CDFG- Riparian			
Solar Energy Facility*	5.7	2:1	11.4
Access roads	0.7	2:1	1.4
Monopole footings			
Lattice tower footings	<0.1	2:1	<0.1
Riparian Sub-total	*6.4*	2:1	*12.8*
CDFG- Streambed			
Solar Energy Facility*	0.9	1:1	0.9
Access roads	0.1	1:1	0.1
Monopole footings			
Lattice tower footings	<0.1	1:1	<0.1
Streambed Sub-total	*1.0*	1:1	*1.0*
Permanent CDFG- total	*7.4*		*13.8*
Temporary Impact			
ACE- Non-wetland waters			
Monopole work areas			
Lattice tower work areas	0.3	1:1	0.3
Temporary ACE-NWW total	*0.3*		*0.3*
CDFG- Riparian			
Monopole work areas			
Lattice tower work areas	0.2	1:1	0.2
Riparian Sub-total	*0.2*	1:1	*0.2*
CDFG- Streambed			
Monopole work areas			
Lattice tower work areas	0.1	1:1	0.1
Streambed Sub-total	*0.1*	1:1	*0.1*
Temporary CDFG- total	*0.3*		*0.3*
ACE TOTAL	*1.1*		*1.1*
CDFG TOTAL	*7.7*		*14.1*

Source: RECON Environmental, Inc., 2010.

TABLE 4.12-21
Alternative 3-Reduced Solar Energy Facility Site Vegetation Community Mitigation Requirements

Vegetation Communities/Land Cover Types	Alternative 3-Reduced Solar Energy Facility Site Impacts (acres)	Mitigation Ratio	Alternative 3-Reduced Solar Energy Facility Site Mitigation Required (acres)
Permanent Impact			
Creosote bush–white burr sage scrub (CBS)			
Access roads	6.6	6:1	39.6
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings	-		-
CBS Sub-total	*6.6*	*6:1*	*39.6*
Desert Wash (DW)			
Solar Energy Facility	6.7	2:1	13.4
Access roads	0.2	6:1	1.2
Lattice tower footings		6:1	
DW Sub-total	*6.9*		*14.6*
Mesquite Thicket (MT)	5.7	1:1	5.7
Tamarisk Thicket (TT)	7.2	-	-
Abandoned (Fallow) Agriculture (AA)	1041.6	-	-
Permanent Impact Totals	1068.0		59.9
Temporary Impact			
Creosote bush-white burr sage scrub			
Pullsite	0.1	6:1	0.6
Monopole work areas	6.8	6:1	40.8
Lattice tower work areas	-		
CBS Sub-total	*6.9*	6:1	*41.4*
Desert Wash (DW)			
Lattice tower sites	-		
DW Sub-total	-		
Temporary Impact Totals	6.9		41.4
Total Alternative 3-Reduced Solar Energy Facility Site Impacts			101.3

Source: RECON Environmental, Inc., 2010.

B15 Flat-tailed Horned Lizard Habitat Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in B3. Compensation specific to Alternative 3-Reduced Solar Energy Facility Site is shown in Table 4.12-22.

4.12.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed for the Alternative 4-No Action/No Project Alternative, as no biological resources impacts under CEQA would occur.

TABLE 4.12-22
Alternative 3-Reduced Solar Energy Facility Site
Flat-tailed Horned Lizard Habitat Mitigation Requirements

	Alternative 3-Reduced Solar Energy Facility Site Impacts (acres)	Mitigation Ratio	Alternative 3-Reduced Solar Energy Facility Site Mitigation Required (acres)
Permanent Impact			
Inside FTHL MA			
Access roads	6.8	6:1	40.8
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings			-
Permanent Impact Totals	6.8		40.8
Temporary Impact			
Inside FTHL MA			
Pullsite	0.1	6:1	0.6
Monopole work areas	6.8	6:1	40.8
Lattice tower work areas	-		
Temporary Impact Total	6.9		41.4
Total Alternative 3-Reduced Solar Energy Facility Site Impacts	13.7		82.2

Source: RECON Environmental, Inc., 2010.

4.12.3.5 Impact Analysis of Mitigation Measures and Residual Impacts

Impact Analysis of Mitigation Measure B1:

Implementation of Mitigation Measure B1 would not result in an adverse direct or indirect impact. Mitigation for the permanent impacts to vegetation communities would be accomplished through required preservation and/or acquisition of off-site habitat with no anticipated ground disturbance. Mitigation for temporary impacts will require on-site habitat restoration, enhancement, or creation. While ground disturbance and/or disturbance to vegetation will take place during the habitat restoration activities, the impact is not considered adverse; the installation of plants, removal of weeds, and general maintenance of the vegetation is expected to benefit the environment by improving the overall habitat

quality for wildlife species, removing seed sources of invasive and/or exotic weedy species, and insure regeneration of native species. Furthermore, all habitat restoration activities, including use of vehicles, crew, and timing of activities are required to follow impact avoidance and minimization protocols for all resources as required for construction activities, in order to insure no adverse impacts occur during habitat restoration and no adverse residual impacts are incurred.

Impact Analysis of Mitigation Measure B2:

Implementation of Mitigation Measure B2 would not result in a direct or indirect impact because a Weed Management Plan will be developed and implemented. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations, including the *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States PEIS* was released to the public on June 29, 2007. The ROD for the PEIS includes SOPs for applying herbicides (summarized in Appendix B, Table B-2 pages B-9 to B-14 of the ROD) and mitigation measures (summarized in Table 2, pages 2-4 to 2-6 of the ROD) that were adopted to ensure that all practicable means to avoid or minimize environmental harm is implemented in these vegetation treatment projects. The Human Health Risk Assessment (PEIS, Appendix B) and Ecological Risk Assessment (PEIS, Appendix C) include an analysis of impacts to resources and human health. This EA tiers to the both the human health and ecological risk assessments, the resource analyses related to the SOPs, and resource analyses related to the mitigation measures in the PEIS. Only herbicides and adjuvants approved by the BLM in California for use on public lands will be used within or adjacent to the project site. Herbicide application can only occur on BLM lands with an approved PUP. Conformance to these guidelines will ensure that no adverse impacts or residual impacts occur to biological resources.

Impact Analysis of Mitigation Measure B3:

Implementation of Mitigation Measure B3 would not result in a direct or indirect impact because the measures proposed are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. These measures are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003), and include protocols for FTHL relocation and handling that minimize adverse impacts and/or residual impacts to FTHL individuals and/or their territories.

Impact Analysis of Mitigation Measure B4:

Implementation of Mitigation Measure B4 would not result in direct, indirect, or residual impacts. Speed limits within the project area are designed to protect terrestrial species, in particular FTHL. The annual formal Worker Education Awareness Training will have no direct or indirect adverse impact and may help workers to drive more carefully during periods of the day when FTHL are active. The Raven Control Plan will have no adverse effects because these are generally limited to good housekeeping practices that are designed to avoid and minimize direct and indirect impacts, and through ongoing implementation can be refined to better address site-specific issues. Even with the best avoidance and minimization practices, the project applicant cannot prevent all circumstances that affect protected resources. However, with implementation of the measures described in Mitigation Measure B4, impacts will be significantly reduced.

Impact Analysis of Mitigation Measure B5:

Implementation of Mitigation Measure B5 would not result in a direct, indirect, or residual impact because initial grading would take place between September 1 and January 31 to avoid impacts to any breeding burrowing owls. Any area where owls are sighted would be subject to frequent surveys by a Designated Biologist or Biological Monitor to ensure that owls can be properly relocated before nesting occurs. This is an area that the resource agencies have an opportunity to partner with the project applicant to contribute to research on successful relocation techniques. In addition, an approved biologist shall prepare a Mitigation and Monitoring Plan that will detail the approved, site-specific methodology to minimize and mitigate impacts to the burrowing owl. The resource agencies will approve the methodology and location of owl relocation to insure that no additional adverse impacts to habitat are incurred and no conflicts with existing burrowing owl territories arise.

Impact Analysis of Mitigation Measure B6:

Implementation of Mitigation Measure B6 would not result in a direct, indirect, or residual impact because measures would be implemented to prevent direct and indirect noise impacts to nesting raptors such as initial grading taking place outside the breeding season and conducting pre-construction clearance surveys to ensure that no work activity occurs in the buffer zone delineated, flagged, or otherwise marked until an approved biologist determines that the fledglings are independent of the nest. All measures are designed for avoidance and observation only of raptor nests (i.e. passive measures), and no active relocation of nests or direct contact with raptors is anticipated.

Impact Analysis of Mitigation Measure B7:

Implementation of Mitigation Measure B7 would not result in a direct, indirect, or residual impact because an ABPP will be prepared following the USFWS's guidelines and implemented by the Project proponent. The ABPP will outline conservation measures for construction and O&M activities that would reduce potential impacts to bird populations and will be developed by the applicant in conjunction with and input from the USFWS. All measures are designed for avoidance and observation only of migratory species and their nests (i.e. passive measures), and no active relocation of nests or direct contact with migratory birds is anticipated.

Impact Analysis of Mitigation Measure B8:

Implementation of Mitigation Measure B8 would not result in a direct, indirect, or residual impact because mitigation for permanent impacts to jurisdictional waters will be conducted in concert with the purchase/acquisition of mitigation for FTHL. Mitigation for temporary impacts to jurisdictional waters will be accomplished through habitat restoration and, as described in the Impact Analysis of Mitigation Measure B1, will not incur adverse impacts to vegetation during the habitat restoration implementation.

Impact Analysis of Mitigation Measure B9:

Implementation of Mitigation Measure B9 would not result in an adverse direct, indirect, or residual impact. Mitigation for the permanent impacts to vegetation communities would be accomplished through required preservation and/or acquisition of off-site habitat with no anticipated ground disturbance.

Mitigation for temporary impacts will require on-site habitat restoration, enhancement, or creation. While ground disturbance and/or disturbance to vegetation will take place during the habitat restoration activities, the impact is not considered adverse; the installation of plants, removal of weeds, and general maintenance of the vegetation is expected to benefit the environment by improving habitat quality for wildlife species, removing seed sources of invasive and/or exotic weedy species, and insure regeneration of native species. Furthermore, all habitat restoration activities, including use of vehicles, crew, and timing of activities are required to follow impact avoidance and minimization protocols for all resources as required for construction activities, in order to insure no adverse impacts occur during habitat restoration.

Impact Analysis of Mitigation Measure B10:
Implementation of Mitigation Measure B10 would not result in a direct, indirect, or residual impact because the compensation for potential direct and indirect effects that construction of the proposed project may have on FTHL are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003), and include protocols for FTHL relocation and handling that minimize adverse impacts to FTHL individuals.

Impact Analysis of Mitigation Measure B11:
Implementation of Mitigation Measure B11 would not result in an adverse direct, indirect, or residual impact. Mitigation for the permanent impacts to vegetation communities would be accomplished through required preservation and/or acquisition of off-site habitat with no anticipated ground disturbance. Mitigation for temporary impacts will require on-site habitat restoration, enhancement, or creation. While ground disturbance and/or disturbance to vegetation will take place during the habitat restoration activities, the impact is not considered adverse; the installation of plants, removal of weeds, and general maintenance of the vegetation is expected to benefit the environment by improving habitat quality for wildlife species, removing seed sources of invasive and/or exotic weedy species, and insure regeneration of native species. Furthermore, all habitat restoration activities, including use of vehicles, crew, and timing of activities are required to follow impact avoidance and minimization protocols for all resources as required for construction activities, in order to insure no adverse impacts occur during habitat restoration.

Impact Analysis of Mitigation Measure B12:
Implementation of Mitigation Measure B12 would not result in a direct, indirect, or residual impact because the compensation for potential direct and indirect effects that construction of the proposed project may have on FTHL are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003), and include protocols for FTHL relocation and handling that minimize adverse impacts to FTHL individuals.

Implementation of Mitigation Measure B13:
Implementation of Mitigation Measure B13 would not result in a direct, indirect, or residual impact because mitigation for permanent impacts to jurisdictional waters will be conducted in concert with the purchase/acquisition of mitigation for FTHL impacts. Mitigation for temporary impacts to jurisdictional waters will be accomplished through habitat restoration and, as described in the Impact Analysis of Mitigation Measure B1, will not incur adverse impacts to vegetation during the habitat restoration implementation.

Impact Analysis of Mitigation Measure B14:

Implementation of Mitigation Measure B14 would not result in an adverse direct, indirect, or residual impact. Mitigation for the permanent impacts to vegetation communities would be accomplished through required preservation and/or acquisition of off-site habitat with no anticipated ground disturbance. Mitigation for temporary impacts will require on-site habitat restoration, enhancement, or creation. While ground disturbance and/or disturbance to vegetation will take place during the habitat restoration activities, the impact is not considered adverse; the installation of plants, removal of weeds, and general maintenance of the vegetation is expected to benefit the environment by improving habitat quality for wildlife species, removing seed sources of invasive and/or exotic weedy species, and insure regeneration of native species. Furthermore, all habitat restoration activities, including use of vehicles, crew, and timing of activities are required to follow impact avoidance and minimization protocols for all resources as required for construction activities, in order to insure no adverse impacts occur during habitat restoration.

Impact Analysis of Mitigation Measure B15:

Implementation of Mitigation Measure B15 would not result in a direct, indirect, or residual impact because the compensation for potential direct and indirect effects that construction of the proposed project may have on FTHL are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003), and include protocols for FTHL relocation and handling that minimize adverse impacts to FTHL individuals.

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4.13 Paleontological Resources

CEQA Significance Criteria/NEPA Indicators

For the purposes of this EIR/EA, a significant Paleontological Resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

For purposes of this analysis a unique paleontological resource or site or unique geologic feature is defined as a as "significant fossil," which has any of the following characteristics: unique, rare or particularly well-preserved; an unusual assemblage of common fossils; being of high scientific interest; or providing important new data concerning [1] evolutionary trends, [2] development of biological communities, [3] interaction between or among organisms, [4] unusual or spectacular circumstances in the history of life, or [5] anatomical structure (43 USC 1712(c), 1732(b)).

NEPA Methodology

Evaluation of potential impacts of the Proposed Action to Paleontological resources is based on a review of the project site information as provided by the applicant and any additional surveys or study required by BLM. To identify and analyze impacts under NEPA, BLM assesses the proposed action and alternatives to identify possible effects to significant paleontological resources that are potentially recoverable and are likely to be within the zone of expected surface disturbance or relatively close to the surface. Surface disturbing federal actions may cause direct adverse impacts to paleontological resources through the damage or destruction of fossils or the disturbance of the stratigraphic context in which they are located. Indirect adverse impacts may be created from increased accessibility to fossils leading to looting or vandalism activities. The direct effects of all surface activities and the indirect effects of increased public access and land tenure adjustments are considered in the paleontological assessment. The assessment determines whether further analysis will be necessary.

4.13.1 CEQA Environmental Analysis

4.13.1.1 Proposed Action

Indicator 1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The following provides an analysis of the potential impacts associated with the construction and operation of the Proposed Action.

Paleontological resources are typically impacted when earthwork activities such as mass excavation cut into geological deposits (formations) with buried fossils. These impacts are in the form of physical destruction of fossil remains. Fossils are the remains of prehistoric animal and plant life, and they are considered to be non-renewable. Such impacts to vertebrate fossils or scientifically important invertebrate or plant fossils would be considered significant and would require mitigation to avoid or reduce adverse effects.

The project site (which includes the solar energy facility, transmission line and access road) is located in the Salton Trough and is underlain by quaternary lake deposits of ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. Therefore, the paleontological sensitivity of these lakebed deposits within the project site boundary is considered to be high. In addition, as discussed in Section 3.13 of this EIR/EA, according to the BLM's PFYC System, the lakebed deposits of ancient Lake Cahuilla located within the project site is identified as Class 4b. Class 4b is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to alluvial material, or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity. Management concern for paleontological resources in Class 4 is moderate to high, depending on the proposed action. For the Proposed Action, the management concern for paleontological resources is considered to be high. As such, paleontological resources potentially located on the project site could be adversely affected during construction of the solar energy facility and transmission lines as a result of disturbance by grading or construction activities; unauthorized, unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment (fossils out of context); and/or physical damage of fossil specimens. In accordance with IM 2009-11, Assessment and Mitigation of Potential Impacts to Paleontological Resources, implementation of Mitigation Measures PR1 through PR5, provided below in Section 4.13.3 would reduce adverse impacts on paleontological resources under CEQA. In addition, implementation of Mitigation Measure PR6 would require workers to be trained on how to identify paleontological resources and follow procedures to avoid and minimize impacts to paleontological resources. Standard discovery stipulations under BLM Guidelines require the applicant to implement field procedures to protect paleontological resources in addition to Mitigation Measures PR1 through PR6.

No significant impacts to paleontological resources under CEQA are anticipated during operation of the Proposed Action.

4.13.1.2 Alternative 1-Alternative Transmission Line Corridor

Indicator 1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The construction of Alternative 1-Alternative Transmission Line Corridor would result in the same impacts to paleontological resources as described above for the Proposed Action because the total area disturbed

for Alternative 1-Alternative Transmission Line Corridor is very similar to the Proposed Action. The implementation of Mitigation Measures PR1 through PR6 for the Proposed Action would apply to Alternative 1-Alternative Transmission Line Corridor and are intended to ensure that the paleontological resource impacts that may occur during the construction of this alternative would not be adverse under CEQA.

Similar to the Proposed Action, no significant impacts to paleontological resources under CEQA are anticipated during operation of Alternative 1-Alternative Transmission Line Corridor.

4.13.1.3 Alternative 2-Alternative Transmission Line Corridor

Indicator 1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The construction of Alternative 2-Alternative Transmission Line Corridor would result in the same impacts to paleontological resources as described above for the Proposed Action because the total area disturbed for Alternative 2-Alternative Transmission Line is very similar to the Proposed Action. The implementation of Mitigation Measures PR1 through PR6 for the Proposed Action would apply to Alternative 2-Alternative Transmission Line Corridor and are intended to ensure that the paleontological resource impacts that may occur during the construction of this alternative would not be adverse under CEQA.

Similar to the Proposed Action, no significant impacts to paleontological resources under CEQA are anticipated during operation of Alternative 2-Alternative Transmission Line Corridor.

4.13.1.4 Alternative 3-Reduced Solar Energy Facility Site

Indicator 1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The construction of Alternative 3-Reduced Solar Energy Facility Site would result in the same impacts to paleontological resources as described above for the Proposed Action because the total area disturbed for Alternative 3-Reduced Solar Energy Facility Site, although reduced in size, impacts to paleontological resources potentially located on the project site would be similar to the Proposed Action. The implementation of Mitigation Measures PR1 through PR6 for the Proposed Action would apply to Alternative 3-Reduced Solar Energy Facility Site and are intended to ensure that the paleontological resource impacts that may occur during the construction of this alternative would not be adverse under CEQA.

Similar to the Proposed Action, no significant impacts to paleontological resources under CEQA are anticipated during operation of Alternative 3-Reduced Solar Energy Facility Site.

4.13.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects to paleontological resources under CEQA from the Alternative 4-No Action/No Project Alternative.

4.13.1.6 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site would result in a significant paleontological resources impact under CEQA. However, with the implementation of Mitigation Measures PR1 through PR5, impacts to paleontological resources would be reduced to a level less than significant.

Implementation of the Alternative 4-No Action/No Project Alternative will not result in a significant paleontological resources impact under CEQA. Therefore, no mitigation is required.

4.13.2 NEPA Environmental Assessment

4.13.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.13.1.1, the project site is located in the Salton Trough and is underlain by quaternary lake deposits of ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. The paleontological sensitivity of these lakebed deposits within the project site boundary is considered to be high. In addition, the project site is identified as Class 4b under BLM's PFYC System (See Section 3.13 of this EIR/EA). Class 4b is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to alluvial material, or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity. For the Proposed Action, the management concern for paleontological resources is considered to be high. As such, paleontological resources potentially located on the project site could be affected during construction of the solar energy facility, transmission lines and access road as a result of disturbance by grading or construction activities; unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment (fossils out of context); and/or physical damage of fossil specimens.

Construction activities could directly impact paleontological resources through the damage of fossils or the disturbance of the stratigraphic context in which the paleontological resources are located. It is unlikely that construction activities could directly impact paleontological resources through destruction because no digging would occur on the project site. Paleontological resources may also be indirectly impacted during construction as a result of increased accessibility to fossils leading to looting or vandalism activities. However, in accordance with IM 2009-11, Assessment and Mitigation of Potential Impacts to Paleontological Resources, implementation of Mitigation Measures PR1 through PR5, provided below in Section 4.13.3 would reduce impacts on paleontological resources. Mitigation Measure PR1 will require that a paleontological field survey, consistent with BLM Guidelines, be performed before any ground disturbing activities commence. This survey will determine additional mitigation measures, as necessary. It

will also guide the development of a Monitoring Plan under Mitigation Measure PR2. Upon completion of all field work, including survey and monitoring, Mitigation Measure PR3 will require a written final report consistent with BLM Guidelines. When the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed under Mitigation Measure PR4. Mitigation Measure PR5 will ensure that fossil specimens and data will remain property of the Federal government, and will be placed in approved repositories. In addition, implementation of Mitigation Measure PR6 would require workers to be trained on how to identify paleontological resources and follow procedures to avoid and minimize impacts to paleontological resources.

When the project reaches the end of its operational life, the project components would be dismantled and removed using conventional construction equipment. The decommissioning of the project site would have similar direct and indirect impacts on paleontological resources as those impacts during the construction phase of the project. As such, the same mitigation measures will be implemented to minimize the impact on paleontological resources during decommissioning of the project. Implementation of Mitigation Measures PR1 through PR6, provided below in Section 4.13.3 would reduce impacts on paleontological resources. Standard discovery stipulations under BLM Guidelines require the applicant to implement field procedures to protect paleontological resources in addition to Mitigation Measures PR1 through PR6.

B. Alternative 1-Alternative Transmission Line Corridor

The Paleontological Resources impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Paleontological Resources impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Paleontological Resources impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.13.1.5, the project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect effects on paleontological resources from the Alternative 4-No Action/No Project Alternative.

4.13.3 Mitigation Measures and Residual Impacts

4.13.3.1 Proposed Action

PR1 Prior to grading or any ground disturbance, a paleontological field survey shall be conducted for the project site. The paleontological field survey and subsequent monitoring activities shall be in accordance with the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources."

A. Definition of Field Surveys. Field Surveys are pedestrian surveys to be performed in areas where significant fossils can be expected to occur within the boundary and immediate vicinity of the anticipated disturbance, or where the probability of encountering significant fossils is unknown.

A paleontological resource or site is considered "significant" where it meets any of the following criteria:

- It is the best example of its kind locally or regionally
- Illustrates a geologic principle
- Provides a critical piece of paleobiological data
- Encompasses any part of a "type locality" or of a fossil or formation
- Contains a unique or particularly unusual assemblage of fossils
- Occupies a unique position stratigraphically
- Occupies a unique position, proximally, distally or laterally within a formation's extent or distribution.

1. Field surveys are performed prior to any surface disturbing activities. Before conducting field surveys, the project location shall be as final as possible and any staking of the location shall be complete.
2. Surveys are conducted by a BLM-permitted consulting paleontologist hired by the project proponent.

(a) Surveys shall be performed by a consulting paleontologist holding a valid BLM Paleontological Resources Use Permit. Submission of reports may be done directly by the paleontologist to the BLM. The project proponent is also responsible for all costs associated with the survey, including the consulting paleontologist's fees and charges, all survey costs, fossil preparation to the basic identification stage, analyses, reports, and curation costs directly related to mitigation of the project's anticipated impacts. Any required monitoring and mitigation costs are also the responsibility of the project proponent. These costs are to be negotiated between the project proponent and the consulting paleontologist prior to beginning any data gathering, analysis, or field work, and these negotiations do not require BLM involvement or approval. Any new,

additional, or modified curation agreements between the paleontologist and the official repository must be in place prior to starting field work.

(b) Authorization for an activity to proceed cannot be given by a consulting paleontologist. Performance of the survey, either by a consulting paleontologist or BLM staff, or submission of the report DOES NOT constitute approval for the activity to proceed. The BLM must review the report, including adequacy of the field methods and findings. The Authorized Officer must approve the findings and determine the need for monitoring prior to approval to proceed.

B. Conducting Field Surveys. Field surveys must be performed by the Principal Investigator or an approved Field Agent or Field Monitor (as defined in the following section) as authorized under a Paleontological Resource Use Permit. Field surveys and collections performed as a mitigation measure are not intended to be scientific research studies, but are meant to identify, avoid, or recover paleontological resources to prevent damage or destruction from project activities. However, proper scientific techniques and procedures must be utilized during all mitigation efforts. Safety should be an important consideration; therefore, surveys should not be attempted on cliff faces, in open, non-reinforced trenches deeper than five feet, or other unsafe areas.

1. The scope of the survey is dependent upon the scale of the project.

2. At the start of field work, the consulting paleontologist (paleontologist) must contact the Paleontology Coordinator in each affected Field Office who may require a visit to that office.

   After an initial visit each year, the paleontologist may contact the Field Office by telephone or email prior to subsequent field trips, at the discretion of the Field Office. Information about the survey schedule, additional personnel, emergency field contact information, and any other pertinent data shall be provided to the Paleontology Coordinator. The Field Office will inform the paleontologist of any conditions that may impact the survey, such as fire danger or restrictions, drought restrictions, wildlife timing restrictions, management restrictions, road restrictions or construction, and any other relevant information.

3. During the field survey, the paleontologist surveys, locates, and documents all paleontological resources within 200 feet of the proposed project location or corridor, or less distance upon approval.

   (a) Where significant paleontological resources are at risk, data collection alone does not constitute mitigation of damage. All significant fossils that may be damaged or destroyed during project activities must be collected, along with all relevant contextual and geographical data. Specimens must be collected during the survey or prior to commencement of any surface-disturbing activities.

   (b) In many cases, isolated gar scales, chelonid (turtle) carapace or plastron fragments, crocodile and fish teeth, and unidentifiable bone fragments do not need to be

collected. The location must be recorded and a description of the fossil material noted in the field notes and on a BLM Locality Form as part of the report. The context of these types of fossils should be considered, as they may represent rare occurrences or unusual faunal associations, and thus may be scientifically important and must be documented and voucher specimens collected where appropriate.

(c) Occurrences of plant or invertebrate fossils should be recorded and representative examples or voucher specimens collected where appropriate. Additional mitigation measures may be appropriate in some cases for these types of localities.

(d) If a large specimen or a concentration of significant fossils is located during the field survey, the available time and/or personnel may not allow for full recovery during the survey. The specimen(s) and locality(ies) should be stabilized as needed, and a determination made as to whether avoidance is necessary or whether full recovery of the specimen is required at a later time prior to disturbance activities. The Authorized Officer and project proponent must be notified, the mitigation alternatives discussed including funding for recovery, and a decision reached as soon as possible. If avoidance or later recovery is selected for mitigation, the find should be stabilized, buried if needed to protect the fossils and context, and appropriate measures implemented to reduce adverse effects from natural or human causes.

4. During the survey, locations or areas that exhibit a lithology suggesting a high probability of subsurface fossil material must be recorded, and a recommendation for the need for on-site monitoring, spot-checking, or testing shall be made in the report. This may include areas where no fossil material was found on the surface during the survey. The recommendation should consider the size and type of planned disturbance, such as the depth of a trenching operation or the acreage of surface disturbance.

5. Surveys must be performed only during times when the ground is visible. Biological timing restrictions, such as critical nesting or birthing times, may confine or delay field activities.

C. Report of Survey Findings. After completion of the field survey, the paleontologist must file a written report with the BLM and the designated repository. This report must summarize the results of the survey as well as appropriate geological and paleontological background information as described below. It should also include any recommendations for on-site monitoring or other mitigation. The time frame for submission of the report for large projects should be negotiated during project scoping. On a case-by-case basis, approval to begin project activities may be granted for those portions of the project area noted to be less paleontologically sensitive prior to final approval of the report.

1. Reports of the general findings and the background information must be submitted to the BLM project manager or Authorized Officer (if appropriate), the Paleontology Lead or Regional Paleontologist, and each affected Field Office. Reports must include the information and details as specified on page 9 of Attachment 1 of the BLM's "Guidelines

for Assessment and Mitigation of Potential Impacts to Paleontological Resources", as applicable.

2. Exact locations of fossil localities contained in these reports are considered sensitive and must not be included in any public document. The BLM locality form (8270-3) or equivalent, 1:24000 scale map showing the localities, and any other information containing specific fossil locations may be bound separately or placed in a separate section to allow for preservation of confidential locality data. A copy of this confidential section must be submitted to the Paleontology Lead (in some cases, two copies may be required). A copy for each affected Field Office may be required. Another copy must be submitted to the official repository with the collected materials.

3. BLM GPS recording and data standards must be used to report paleontological locality data. Existing USGS topographic maps are often based on the NAD27 standard, so locality data calculated from a map base must be converted before submission. Data must be recorded and reported with a mean error of +/- 12.5 meters or less, at a 95 percent confidence level. For small localities, data should be reported as point data. Larger polygonal localities should be reported using coordinates of a centroid and a description of the approximate size, or the key coordinate points of a bounding polygon. Linear features, such as roads or surveyed project boundaries, must be reported as line data. The 1:24000 scale map(s) accompanying the locality forms should graphically illustrate the locality, either as a point or an outline of the locality as appropriate, and be clearly labeled with the locality or field number.

D. Report Approval. The Authorized Officer will analyze the Survey Report for adequacy within 30 working days of receipt. Notification accepting the report, or explaining any identified deficiencies, will be sent to the consulting paleontologist and the project proponent with a copy placed in the project file. Any deficiencies must be corrected as soon as possible, usually initiated within five working days, and the report must be resubmitted for approval. Any resubmissions must be prompt, but consideration will be made for the amount of time needed for major corrections. Deficiencies directly affecting the survey, such as inadequate survey procedures or incomplete data, must be corrected before granting approval for the project to proceed. Deficiencies not directly affecting the survey, such as curation issues, will not prevent approval of the project, but must be corrected as soon as possible.

Determination of Further Mitigation Requirements. Based on the field survey, the need for additional mitigation to protect paleontological resources shall be determined. The Authorized Officer, in consultation with Regional Paleontologist or the Paleontology Lead, shall analyze the Survey Report for survey findings and any mitigation recommendations. If no further mitigation is needed, the Authorized Officer will promptly notify the project proponent that there is no additional paleontological surveys or mitigation measures required, and the project may proceed pending any other approvals. The project file must be documented indicating acceptance of the survey report and identifying any additional mitigation requirements. If it is determined that additional mitigation efforts are needed to protect or preserve the paleontological resources, the

project proponent will be notified as soon as possible. The Authorized Officer and/or the Paleontology Lead usually develop and approve the mitigation procedures or recommend a project be redesigned in consultation with the project proponent. Factors such as locality or specimen significance, economics, safety, and project urgency will be considered when developing mitigation measures. Additional mitigation measures shall be developed and implemented as timely as possible so as not to delay project actions.

A. Relocation. The preferred mitigation technique is to change the project location based on the results of the field survey. Relocation, however, may necessitate a field survey of the new area, as well as resurveys by other resource specialists. Anticipation of this contingency prior to or during the original survey may allow for survey of an expanded area at the same time.

   If relocation will eliminate impacts and is acceptable to all parties, then a report to the file, including a map showing the original and revised locations, must be completed documenting the change. Approval for the project to proceed in the revised location may then be granted by the Authorized Officer to the project proponent. When avoidance is not possible, appropriate mitigation may include excavation or collection (data recovery), stabilization, monitoring, protective barriers and signs, or other physical and administrative protection measures.

B. Deferred Fossil Collection. In some cases, fossil material may have been identified, but not completely collected during the initial field survey, such as a partial dinosaur or other large fossil assemblage. It may be possible to complete the recovery of this material and all related data prior to beginning construction activities, and thus mitigate the adverse impact. This may require a shift in the project schedule and must be coordinated with the project proponent. Approval by the Authorized Officer for the project to proceed will only be granted when recovery of the fossil material and field data is completed. A report to the file and the project proponent documenting the recovery and indicating that no further mitigation is required must be completed, and the report signed by the Authorized Officer. If the discovery cannot be fully collected within the available time frame, it may have to be avoided by relocating or redesigning the project.

PR2 Based on the field survey and reporting results identified in Mitigation Measure PR-1, a Monitoring Plan shall be developed and implemented (if required).

A monitoring plan can be developed by a qualified paleontologist hired by the proponent who holds a current California BLM Paleontology Use Permit. The plan must be appropriately scaled to the size and complexity of the anticipated monitoring. If developed by a third party, the appropriate Paleontology Lead or Regional Paleontologist shall review the plan for sufficiency prior to acceptance. Monitoring of the project may proceed when the monitoring plan is approved by the Authorized Officer. A monitoring plan indicates the treatments recommended for the area of the proposed disturbance and must minimally address the following:

1. The recommended approach to additional specimen collection, such as total or partial recovery or sampling; and,
2. The specific locations and intensity of monitoring or sampling recommended for each geologic unit, stratigraphic layer, or area impacted.

Monitoring intensity is determined based on the analysis of existing data and/or field surveys and any previous monitoring efforts.

Types of Monitoring. There are two types of monitoring: 1) on-site, performed during ongoing construction operations, and 2) spot-checks, performed during or after disturbance, or at key times during the progress of the project.

1. On-site monitoring – In areas with a high probability for buried fossils, the presence of a monitor at the site of disturbance at all times that disturbance is occurring may be warranted. The need for a full-time monitor is based on the findings of the survey, the local geology, and the proposed actions. Efforts will be made to complete fossil recovery with minimal work stoppage. However, in some cases, an extended period of work stoppage may be required, so coordination with the project proponent or representative is important. Prior to beginning the monitoring work, the monitor, company supervisor, and machinery operators shall agree on procedures for brief work stoppages to allow for examination of finds. It is critical that safety be of utmost concern because of the presence of heavy machinery and open trenches.

   The monitor must assess any finds, collect loose fossil material and related data, and take appropriate steps to mitigate any current or potential damage. Consideration of the size of the expected fossils must also be considered; for example, microfossils may not be visible during excavation activities. It may be appropriate to collect samples of matrix for later recovery of microvertebrate fossils or other analyses. Activities planned to occur during night time should be assessed relative to the potential to uncover significant fossils. Fossils may not be visible at night in trenching or grading operations, so construction activities may need to be suspended during night time in sensitive areas.

2. Spot-checking – In areas with a moderate to high probability for unknown fossil material, it may be more appropriate to check only at key times rather than maintain continuous monitoring of operations. Key times for scheduling spot-checking are when the fossil-bearing bedrock is exposed to view or prior to placing spoil material back into the excavation. Examples of these key times may be when a pipeline trenching operation is complete but before pipe is placed and the trench backfilled or prior to redistribution of topsoil. Spot-checking requires close coordination with the project proponent and the paleontologist, and usually requires the paleontologist to be available on short notice. In some instances, it may be advantageous to allow rain and/or wind to erode away loose matrix and concentrate fossil material to increase visibility. The paleontologist will coordinate with the project proponent to allow sufficient time for this action to occur, as appropriate to conditions, expected fossil material, and construction schedules.

The paleontologist should report potentially fossiliferous areas in the final report to allow for future assessment of sites, even if no fossils were located during the project monitoring.

Types of Field Personnel. It may be necessary to employ a number of paleontology field personnel simultaneously. There may be a lack of fully qualified paleontologists to perform all the necessary monitoring during the scheduled times of construction. Use of additional personnel for field work is permissible, but Field Agents and Field Monitors (described below) must be requested by the Permittee and authorized by the BLM prior to field work.

1. Principal Investigator – The person listed as Permittee (Permit item 1a) on the Paleontological Resources Use Permit is the Principal Investigator (PI) and is responsible for all actions under the permit, for meeting all permit terms and conditions, and for the performance of all other personnel. This person is also the contact person for the project proponent and the BLM.

2. Field Agent – Other qualified paleontologists may perform field work independently of the PI under the conditions of this permit. Résumés must be submitted to BLM and must demonstrate qualifications equivalent to those of Permittees. Field Agents must be listed on the permit under "Name(s) of individual(s) responsible for planning, supervising, and carrying out fieldwork" (Permit item 8) or authorized in a separate letter from BLM. They must follow all the permit terms and conditions applicable to field work and must carry a copy of the permit, included terms and conditions, and separate authorizing letter (if used) while in the field. Field work results must be reported to the PI, who will then submit required reports.

3. Field Monitor – Field Monitors may be utilized for supplemental on-site monitoring of surface-disturbing activities when the PI or a Field Agent is performing field work elsewhere. Field Monitors must have sufficient field experience to demonstrate acceptable knowledge of fossil identification, collection methods, and paleontological techniques. The PI must supply a summary of each person's experience to the BLM prior to field work. Field Monitors must be approved by the BLM prior to performing field work and must carry a copy of the permit while in the field. The PI or Field Agent must be in communication with the Field Monitor using a portable communication device, such as a cell phone or two-way radio, and are required to be near enough to the Field Monitor to allow for prompt examination of all fossil discoveries (no more than two hours away) by the PI or Field Agent.

4. Field Assistant – Additional personnel not meeting the previously cited experience or knowledge levels may be utilized during field work, but must be under direct, on-site supervision of either the PI or a Field Agent as part of a supervised crew. Field assistants must have at least four to eight hours of training or experience received from a qualified paleontologist in identifying paleontological resources prior to performing field work or when first utilized in this capacity. A listing of all Field Assistants (including contact information) must be supplied prior to any field work. All discoveries made by a Field Assistant must be immediately reported to the PI or Field Agent on site. To ensure proper supervision, an appropriate ratio of Field Assistants per PI or Field Agent must be maintained. The complexity of the project, the area to be covered, and the experience of the assistants are some of the

factors that should be considered in determining the proper ratio, but commonly five to seven assistants is the maximum number that can be supervised by one PI or Field Agent.

Work Stoppage. If significant fossil material is discovered during construction activities, the PI, Field Agents, and Field Monitors have the authority to temporarily halt surface disturbing actions until an assessment of the find is completed and appropriate protection measures taken. Efforts will be made to complete fossil recovery with minimal work stoppage. However, in some cases, an extended period of work stoppage may be required. If the paleontological resource can be avoided, mitigated, or collected within approximately two hours, work may resume after approval from the PI or Field Agent, and the Authorized Officer must be notified as soon as possible of the discovery and any mitigation efforts that were undertaken. If the find cannot be mitigated within a reasonable time (two hours), the concurrence of the Authorized Officer or official representative for a longer work stoppage must be obtained. Work may not resume until approval is granted from both the PI or Agent and the Authorized Officer.

PR3 Upon completion of all field work, including survey and monitoring, the PI must submit within 30 days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. A copy of the report may be provided to the project proponent if required, but without the BLM Locality forms. Reports must include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources," as applicable.

PR4 When the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed. The project proponent will be notified in writing as soon as possible by the Authorized Officer after consulting with the Paleontology Lead or Regional Paleontologist and a copy of the notification placed in the project file.

The responsibility of the project proponent ends when appropriate mitigation related directly to the project is completed and final approval is received from the Authorized Officer. Any additional field collection, quarrying, final specimen preparation, etc. will be considered to be research, and will be the responsibility of the consulting paleontologist or another approved party. The project proponent will not be held responsible for completion of any research project. However, the project proponent can choose to sponsor further research. A separate research permit will be required for additional research activities.

PR5 Fossil specimens and related data collected from public lands during field surveys and mitigation remain the property of the Federal government. Fossil specimens collected during project construction must be placed in the approved repository(s) identified on the Paleontological Resource Use Permit held by the consulting paleontologist as soon as practical and receipt(s) of collections submitted to the BLM, but no later than 60 days after all field work is completed. Written approval from the Paleontology Lead or Regional Paleontologist is required if additional time is needed for transfer of all specimens and field data.

PR6 Prior to Project initiation, workers shall be trained on how to identify paleontological resources, and follow the proper procedures discussed in detail in the above mitigation measures if said resources are located.

4.13.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures PR1 through PR6 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.13.3.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measures PR1 through PR6 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.13.3.4 Alternative 3-Reduced Solar Energy Facility Site

Mitigation Measures PR1 through PR6 identified above for the Proposed Action will also be implemented for Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.13.3.5 Alternative 4-No Action/No Project Alternative

No mitigation is proposed under the Alternative 4-No Action/No Project Alternative, as no impact to paleontological resources under CEQA would occur.

4.13.3.6 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure PR1:

Implementation of Mitigation Measure PR1 would not result in a direct or indirect impact because the mitigation requires a paleontological field survey of the project site, and that survey would not destroy or damage paleontological resources or increase public access to them. The paleontological field survey shall be conducted in accordance with the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources." Surveys will be conducted by a consulting paleontologist holding a valid BLM Paleontological Resources Use Permit. After completion of the field survey, the paleontologist will file a written report with the BLM and the designated repository. This report will summarize the results of the survey as well as appropriate geological and paleontological background information. The report will include, if necessary, any recommendations for on-site monitoring or other mitigation.

Impact Analysis of Mitigation Measure PR2:

Implementation of Mitigation Measure PR2 would not result in a direct or indirect impact because a Monitoring Plan shall be developed and implemented, if required, based on the results from the field survey (as required by Mitigation Measure PR1).

Impact Analysis of Mitigation Measure PR3:

Implementation of Mitigation Measure PR3 would not result in a direct or indirect impact because upon completion of all field work, including survey and monitoring, the PI must submit within 30 days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. Reports must

include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources," as applicable.

Impact Analysis of Mitigation Measure PR4:

Implementation of Mitigation Measure PR4 would not result in a direct or indirect impact because when the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed.

Impact Analysis of Mitigation Measure PR5:

Implementation of Mitigation Measure PR5 would not result in a direct or indirect impact because fossil specimens and related data collected from public lands during field surveys and mitigation remain the property of the Federal government. They must be placed in the approved repository(s) identified on the Paleontological Resource Use Permit held by the consulting paleontologist as soon as practical and receipt(s) of collections submitted to the BLM.

Impact Analysis of Mitigation Measure PR6:

Implementation of Mitigation Measure PR6 would not result in a direct or indirect impact because prior to Project initiation, workers shall be trained on how to identify paleontological resources and follow the proper procedures discussed in detail in Mitigation Measures PR1 through PR5 if paleontological resources are located.

4.13.3.7 Residual Impact Analysis of Mitigation Measures

The residual impacts after the implementation of the mitigation measures identified above would be as described in the relevant impact analyses above.

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4.14 Socioeconomic Conditions and Environmental Justice

The CEQ regulations implementing NEPA (Section 1508.14) state that "…*economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment*."

CEQA Significance Criteria

The CEQA Guidelines (Section 15382) states that an "economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

Appendix G to the CEQA Guidelines also provides guidance as to when impacts to population and housing may result in significant effects. For purposes of this EIR/EA, a significant Population/Housing impact, under CEQA would occur if the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Induce substantial growth in an area, either directly or indirectly;*

Indicator 2: *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;*

Indicator 3: *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere*;

NEPA Methodology

Evaluation of the Proposed Action's impacts on Social and Environmental Justice issues for NEPA purposes can be framed using the above mentioned CEQA indicators, because those indicators capture the range of potential social and environmental justice impacts that could occur as a result of the Proposed Action. In addition to those indicators, Executive Order 12898 requires a Proposed Action's impacts on Environmental Justice to be considered as part of the NEPA process if the Proposed Action would "result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, for example, household population with low income or a minority population in comparison with a population that is not low income or minority."

4.14.1 CEQA Environmental Analysis

4.14.1.1 Proposed Action

A. Socioeconomic Conditions

Indicator 1: Induce substantial growth in an area, either directly or indirectly.

Indicator 2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Indicator 3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

For purposes of this analysis, direct population growth is defined as workers permanently moving in to the project area because of project construction and operation, thereby encouraging construction of new homes or extension of roads or other infrastructure[1]. To determine whether the Proposed Action would directly induce population growth, the availability of the local workforce and population in the region was analyzed. "Local workforce" is defined as Imperial, San Diego, Riverside, and San Bernardino Counties. Construction workers beyond a two-hour commute would likely relocate for the workweek but would return to their primary residences and families on weekends.

The workforce for the Proposed Action is expected to consist of 285 workers during peak construction periods with hours generally between 7am and 3pm Monday through Friday during the temporary construction phase. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. Construction of the Proposed Action includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. The construction activities are expected to require approximately 17 months. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 285 temporary construction workers would result in a 0.20% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to be derived from the local population, and construction of the project would not result in a short-term growth-inducing impact. As mentioned, the majority of the construction workforce would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Typically, non-local skilled craft workers do not bring families with them on these short-term construction assignments. Therefore, most are expected to stay in local hotels or rental housing units. The California Department of Finance estimates Imperial County's housing vacancy rate was 10.91 percent on January 1, 2010, which equated to over 6,100 vacant housing units. Therefore, based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Proposed Action. As such, the Proposed Action would not displace any existing housing or displace any

[1] See EIR/EA Chapter 6.0 for a discussion of potential indirect growth-inducing impacts associated with the availability of the project's energy production.

people, necessitating the construction of replacement housing elsewhere. For these reasons, the Proposed Action's impacts on housing, as a result of construction and operation of the Proposed Action is not considered a significant impact under CEQA.

Furthermore, as discussed above, the long-term operations and maintenance of the Proposed Action would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Proposed Action would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Also, the Proposed Action does not provide any infrastructure that would indirectly induce substantial population growth. For these reasons, the Proposed Action's impacts with regard to directly inducing substantial population growth are not considered a significant impact under CEQA.

The Proposed Action would be constructed in an uninhabited area. The portion of the project site within the County of Imperial was previously used for agricultural production, but has been fallow for many years and the transmission line corridor is located on existing BLM land that is currently designated as a utility corridor. Therefore, the Proposed Action would not displace people or existing housing. In addition, the proposed transmission line would be constructed within an area on BLM land currently designated as a utility corridor and would not physically divide any community. Therefore, no impact under CEQA is identified for this issue area.

The Proposed Action would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Proposed Action's impacts with regard to this issue area are considered less than significant. Rather, as discussed below, the Proposed Action would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

B. Environmental Justice

The minority population percentages in the Imperial County area are predominately Hispanic or Latino composition, with Hispanics/Latinos making up approximately 72.2 percent of the overall population. This is considerably higher than for California as a whole. The project site is located within Imperial County Census Tract 012301, which had a total year 2000 population of 5,202. This census tract has predominately Hispanic or Latino ethnic composition, with Hispanics/Latinos making up approximately 45.4 percent of the overall population. Caucasians comprise the next highest group (25.5 percent) among one-race individuals. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consists of minority and low-income individuals. However, as discussed below, the Proposed Action is considered a public benefit and would not result in environmental effects to the minority population residing within and surrounding the Imperial County area. The Proposed Action would not displace any residents or traverse an established community.

As depicted in Figure 4.14-1, the solar facility is zoned General Agriculture (A-2), General Agriculture Rural (A-2-R) and Heavy Agriculture (A-3). Pursuant to Title 9, Division 5, Chapter 9 "Solar Energy Plants" is a conditionally-permitted use in the A-2, A-2-R, and A-3 zones. Thus, the solar energy facility use is consistent with the Land Use Ordinance. As depicted in Figure 4.14-1, the surrounding area is zoned similar to the Proposed Action (A-2, A-2-R, and A-3 zones) and solar energy plants would be permitted in these surrounding areas. The surrounding area is also zoned Government/Special (G/S). Pursuant to Title 9, Division 5, Chapter 9, hazardous materials disposal and hazardous materials treating facilities are conditionally-permitted uses in the G/S zone. The operation of a solar energy facility on the site is less intensive than hazardous materials disposal or treating facilities. As depicted on Figure 2-5 of this EIR/EA, the transmission line and associated access road would be located entirely within a designated utility corridor on BLM lands. This area is desert lands and is not within an established community that would be affected by its development and operation.

Implementation of the Proposed Action will not result in the loss of agricultural or other type of employment because the Proposed Action is being constructed on a combination of currently fallow agricultural land and currently undeveloped BLM lands. Rather, the Proposed Action will create employment opportunities during the short-term construction phase and long-term operation of the project. As such, the construction and operation of the solar energy facility site is considered a public benefit by providing employment opportunities to low-income and minority populations in the area. The placement of the Proposed Action in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is now low income or minority.

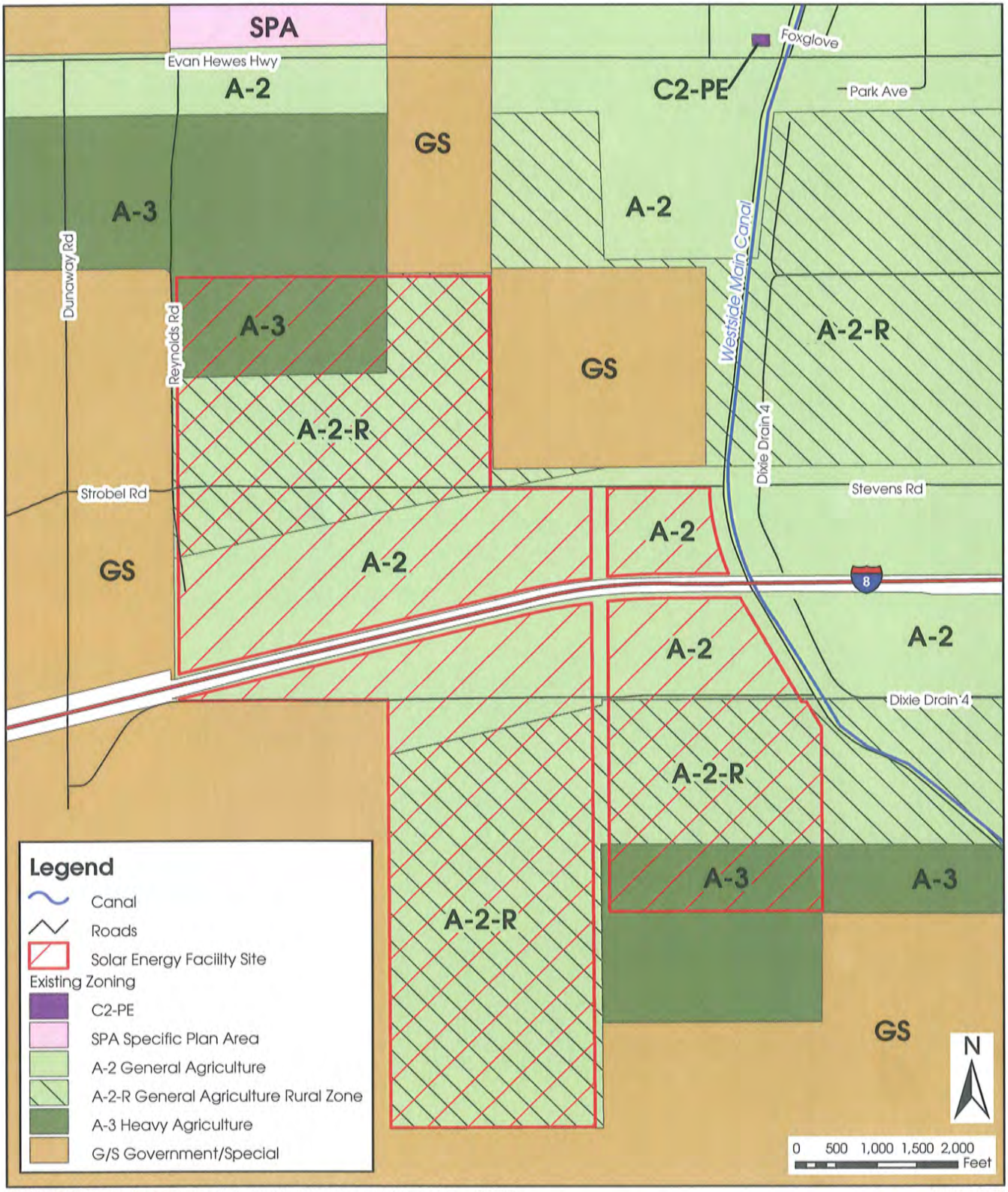
C. Beneficial Effects

The following describes the beneficial effects of the Proposed Action on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during peak use hours, solar power can enhance grid stability by matching generation to the daily electric load profile.

Although solar power is an intermittent source of electric energy, the on-site Solar Meteorological Station(s) will provide real-time data for reliable electrical generation predictions and coordination with the CAISO.



SOURCE: County of Imperial, 2010; BRG Consulting, Inc., 2010

10/18/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Solar Energy Facility and Surrounding Area Zoning

FIGURE 4.14-1

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 14\Figure 4.14-1 Zoning Map.mxd

Economic Benefits

Noteworthy public benefits of the Proposed Action include the direct, indirect, and induced impacts of the project. The dollars spent on, or resulting from the construction and operation of the Proposed Action would have a ripple effect on the local economy.

The Proposed Action would require workers, supplies, and services for the life of the project. Employees would use salaries and wages to purchase goods and services from other businesses. Those businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local and regional economy. This effect of indirect (jobs, sales, and income generated) and induced (employees' spending for local goods and services) spending continues with subsequent rounds of additional spending, which is gradually diminished through savings, taxes, and expenditures made outside the area.

Promoting Stable Electricity Prices

Traditional base load energy prices have increased by roughly 4 percent per year in recent years and wholesale electricity pricing during peak hours has also increased with increased demand for energy and the rising cost of fossil fuels. A solar plant, such as the proposed facility, can produce electricity during peak demand periods when prices are highest and energy is most needed. This helps to relieve stress on the grid during peak hours, preventing the need to call up peaker plants and promoting stable electricity prices.

Reducing Reliance on Imported Fuels

Once the proposed facility is completed, it will be able to operate completely independently from any imported fuels given that no imported fuels are required in the solar electricity generation process.

Protecting Public Health

Once the facility is operational, it will produce zero greenhouse gas emissions in the electricity generation process. Based on project build out of up to 250MW, this will off-set approximately 229,500 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the city of El Centro. El Centro has a low-income rural population in Imperial County. The plant is expected to create local employment opportunities both during the construction and operating periods. Furthermore, Imperial County will benefit from millions of dollars in property tax assessments over the course of the Project lifecycle. These funds will be used to provide civil services for local communities.

4.14.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Socioeconomic Conditions

Indicator 1: Induce substantial growth in an area, either directly or indirectly.

Indicator 2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Indicator 3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Similar to the Proposed Action, the workforce for the Alternative 1-Alternative Transmission Line Corridor is expected to consist of 285 workers during peak construction periods. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. The construction activities are expected to require approximately 17 months. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 285 temporary construction workers would result in a 0.20% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to come from the local population and would not result in short-term growth-inducing impact. Some of the construction workforce would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Typically, non-local skilled craft workers do not bring families with them on these short-term construction assignments. Therefore, most are expected to stay in local hotels or rental housing units. The California Department of Finance estimates Imperial County's housing vacancy rate was 10.91 percent on January 1, 2010, which equated to over 6,100 vacant housing units. Therefore, based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Alternative 1-Alternative Transmission Line Corridor. As such, the Alternative 1-Alternative Transmission Line Corridor would not displace any existing housing or displace any people, necessitating the construction or replacement housing elsewhere. For these reasons, the Alternative 1-Alternative Transmission Line Corridor's impacts on housing, as a result of construction and operation of the Alternative 1-Alternative Transmission Line Corridor is not considered a significant impact under CEQA.

Furthermore, as discussed above, the long-term operations and maintenance of the Alternative 1-Alternative Transmission Line Corridor would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Alternative 1-Alternative Transmission Line Corridor would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. The Alternative 1-Alternative Transmission Line Corridor does not provide any infrastructure, which would indirectly induce substantial population growth. For these reasons, the Alternative 1-Alternative Transmission Line Corridor's impacts with regard to directly inducing substantial growth are not considered a significant impact under CEQA.

The Alternative 1-Alternative Transmission Line Corridor would be constructed in an uninhabited area. The portion of the project site within the County of Imperial was previously used for agricultural production, but has been fallow for many years and the transmission line corridor is located on existing BLM land that is currently designated as a utility corridor. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not displace a substantial number of people or existing housing. In addition, the proposed transmission line would be constructed within an area on BLM land currently designated as a utility corridor and would not physically divide any community. Therefore, no impact under CEQA is identified for this issue area.

The Alternative 1-Alternative Transmission Line Corridor would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Alternative 1-Alternative Transmission Line Corridor's impacts with regard to this issue area are considered less than significant under CEQA. Rather, the Alternative 1-Alternative Transmission Line Corridor would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

B. Environmental Justice

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor's minority population percentages in the Imperial County area are predominately Hispanic or Latino composition, with Hispanics/Latinos making up approximately 72.2 percent of the overall population. This is considerably higher than for California as a whole. The project site is located within Imperial County Census Tract 012301, which had a total year 2000 population of 5,202. This census tract has predominately Hispanic or Latino ethnic composition, with Hispanics/Latinos making up approximately 45.4 percent of the overall population. Caucasians comprise the next highest group (25.5 percent) among one-race individuals. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consists of minority and low-income individuals. However, as discussed below, the Alternative 1-Alternative Transmission Line Corridor is considered a public benefit and would not result in environmental effects to the minority population residing within and surrounding the Imperial County area. The Alternative 1-Alternative Transmission Line Corridor would not displace any residents or traverse an established community.

The solar facility is zoned General Agriculture (A-2), General Agriculture Rural (A-2-R) and Heavy Agriculture (A-3). Pursuant to Title 9, Division 5, Chapter 9 "Solar Energy Plants" is a conditionally-permitted use in the A-2, A-2-R, and A-3 zones. Thus, the solar energy facility use is consistent with the Land Use Ordinance. The surrounding area is zoned similar to the Alternative 1-Alternative Transmission Line Corridor (A-2, A-2-R, and A-3 zones) and solar energy plants would be permitted in these surrounding areas. The surrounding area is also zoned Government/Special (G/S). Pursuant to Title 9, Division 5, Chapter 9, hazardous materials disposal and hazardous materials treating facilities are conditionally-permitted uses in the G/S zone. The operation of a solar energy facility on the site is less intensive than hazardous materials disposal or treating facilities. As depicted on Figure 2-5 of this EIR/EA, the transmission line and associated access road would be located entirely within a designated utility corridor on BLM lands. This area is desert lands and is not within an established community that would be affected by its development and operation.

Implementation of the Alternative 1-Alternative Transmission Line Corridor will not result in the loss of agricultural, or other type of employment because the Alternative 1-Alternative Transmission Line Corridor is being constructed on a combination of currently fallow agricultural land and currently undeveloped BLM lands. Rather, the Alternative 1-Alternative Transmission Line Corridor will create employment opportunities during the short-term construction phase and long-term operation of the project. As such, the construction and operation of the solar energy facility site is considered a public benefit by providing employment opportunities to low-income and minority populations in the area. The placement of the Alternative 1-Alternative Transmission Line Corridor in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is now low income or minority.

C. Beneficial Effects

The following describes the beneficial effects of the Alternative 1-Alternative Transmission Line Corridor on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during peak hours, solar power can enhance grid stability by matching generation to the daily electric load profile. Although solar power is an intermittent source of electric energy, the on-site Solar Meteorological Station(s) will provide real-time data for reliable electrical generation predictions and coordination with the CAISO.

Economic Benefits

Similar to the Proposed Action, noteworthy public benefits of the Alternative 1-Alternative Transmission Line Corridor include the direct, indirect, and induced impacts of the project. The dollars spent on, or resulting from the construction and operation of the Alternative 1-Alternative Transmission Line Corridor would have a ripple effect on the local economy.

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would require workers, supplies, and services for the life of the project. Employees would use salaries and wages to purchase goods and services from other businesses. Those businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local and regional economy. This effect of indirect (jobs, sales, and income generated) and induced (employees' spending for local goods and services) spending continues with subsequent rounds of additional spending, which is gradually diminished through savings, taxes, and expenditures made outside the area.

Promoting Stable Electricity Prices

Traditional base load energy prices have increased by roughly 4 percent per year in recent years and wholesale electricity pricing during peak hours has also increased with increased demand for energy and the rising cost of fossil fuels. A solar plant, such as the proposed facility, can produce electricity during peak demand periods when prices are highest and energy is most needed. This helps to relieve stress on the grid during peak hours, preventing the need to call up peaker plants and promoting stable electricity prices.

Reducing Reliance on Imported Fuels

Once the proposed facility is completed, it will be able to operate completely independently from any imported fuels given that no imported fuels are required in the solar electricity generation process.

Protecting Public Health

Once the facility is operational, it will produce zero greenhouse gas emissions in the electricity generation process. Based on project build out of up to 250MW, this will off-set approximately 229,500 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the city of El Centro. El Centro has a low-income rural population in Imperial County. The plant is expected to create local employment opportunities both during the construction and operating periods. Furthermore, Imperial County will benefit from millions of dollars in property tax assessments over the course of the Project lifecycle. These funds will be used to provide civil services for local communities.

4.14.1.3 Alternative 2-Alternative Transmission Line Corridor

A. Socioeconomic Conditions

Indicator 1: *Induce substantial growth in an area, either directly or indirectly.*

Indicator 2: *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.*

Indicator 3: *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.*

Similar to the Proposed Action, the workforce for the Alternative 2-Alternative Transmission Line Corridor is expected to consist of 285 workers during peak construction periods. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 285 temporary construction workers would result in a 0.20% percent increase in the population. However, there is currently a 19.4%

unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to arise from the local population and would not result in short-term growth-inducing impact. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. The construction activities are expected to require approximately 17 months. Some of the construction workforce would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Typically, non-local skilled craft workers do not bring families with them on these short-term construction assignments. Therefore, most are expected to stay in local hotels or rental housing units. The California Department of Finance estimates Imperial County's housing vacancy rate was 10.91 percent on January 1, 2010, which equated to over 6,100 vacant housing units. Therefore, based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Alternative 2-Alternative Transmission Line Corridor. As such, the Alternative 2-Alternative Transmission Line Corridor would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, the Alternative 2-Alternative Transmission Line Corridor's impacts on housing, as a result of construction and operation of the Alternative 2-Alternative Transmission Line Corridor is not considered a significant impact under CEQA.

Furthermore, as discussed above, the long-term operations and maintenance of the Alternative 2-Alternative Transmission Line Corridor would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Alternative 2-Alternative Transmission Line Corridor would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Alternative 2-Alternative Transmission Line Corridor does not provide any infrastructure, which would indirectly induce substantial population growth. For these reasons, the Alternative 2-Alternative Transmission Line Corridor's impacts with regard to directly inducing substantial growth are not considered a significant impact under CEQA.

The Alternative 2-Alternative Transmission Line Corridor would be constructed in an uninhabited area. The portion of the project site within the County of Imperial was previously used for agricultural production, but has been fallow for many years and the transmission line corridor is located on existing BLM land that is currently designated as a utility corridor. Therefore, the Alternative 2-Alternative Transmission Line Corridor would not displace a substantial number of people or existing housing. In addition, the proposed transmission line would be constructed within an area on BLM land currently designated as a utility corridor and would not physically divide any community. Therefore, no impact under CEQA is identified for this issue area.

The Alternative 2-Alternative Transmission Line Corridor would result in minor if any, socioeconomic conditions impacts. For purposes of CEQA, the Alternative 2-Alternative Transmission Line Corridor's impacts with regard to this issue area are less than significant. Rather, the Alternative 2-Alternative Transmission Line Corridor would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

B. Environmental Justice

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor's minority population percentages in the Imperial County area are predominately Hispanic or Latino composition. This is considerably higher than for California as a whole. The project site is located within Imperial County Census Tract 012301, which had a total year 2000 population of 5,202. This census tract has predominately Hispanic or Latino ethnic composition, with Hispanics/Latinos making up approximately 45.4 percent of the overall population. Caucasians comprise the next highest group (25.5 percent) among one-race individuals. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consists of minority and low-income individuals. However, as discussed below, the Alternative 2-Alternative Transmission Line Corridor is considered a public benefit and would not result in environmental effects to the minority population residing within and surrounding the Imperial County area. The Alternative 2-Alternative Transmission Line Corridor would not displace any residents or traverse an established community.

The solar facility is zoned General Agriculture (A-2), General Agriculture Rural (A-2-R) and Heavy Agriculture (A-3). Pursuant to Title 9, Division 5, Chapter 9 "Solar Energy Plants" is a conditionally-permitted use in the A-2, A-2-R, and A-3 zones. Thus, the solar energy facility use is consistent with the Land Use Ordinance. The surrounding area is zoned similar to the Alternative 2-Alternative Transmission Line Corridor (A-2, A-2-R, and A-3 zones) and solar energy plants would be permitted in these surrounding areas. The surrounding area is also zoned Government/Special (G/S). Pursuant to Title 9, Division 5, Chapter 9, hazardous materials disposal and hazardous materials treating facilities are conditionally-permitted uses in the G/S zone. The operation of a solar energy facility on the site is less intensive than hazardous materials disposal or treating facilities. As depicted on Figure 2-5 of this EIR/EA, the transmission line and associated access road would be located entirely within a designated utility corridor on BLM lands. This area is desert lands and is not within an established community that would be affected by its development and operation.

Implementation of the Alternative 2-Alternative Transmission Line Corridor will not result in the loss of agricultural, or other type of employment because the Alternative 2-Alternative Transmission Line Corridor is being constructed on a combination of currently fallow agricultural land and currently undeveloped BLM lands. Rather, the Alternative 2-Alternative Transmission Line Corridor will create employment opportunities during the short-term construction phase and long-term operation of the project. As such, the construction and operation of the solar energy facility site is considered a public benefit by providing employment opportunities to low-income and minority populations in the area. The placement of the Alternative 2-Alternative Transmission Line Corridor in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is now low income or minority.

C. Beneficial Effects

The following describes the beneficial effects of the Alternative 2-Alternative Transmission Line Corridor on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during on-peak hours, solar power can enhance grid stability by matching generation to the daily electric load profile. Although solar power is an intermittent source of electric energy, the on-site Solar Meteorological Station(s) will provide real-time data for reliable electrical generation predictions and coordination with the CAISO.

Economic Benefits

Similar to the Proposed Action, noteworthy public benefits of the Alternative 2-Alternative Transmission Line Corridor include the direct, indirect, and induced impacts of the project. The dollars spent on or resulting from the construction and operation of the Alternative 2-Alternative Transmission Line Corridor would have a ripple effect on the local economy.

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor would require workers, supplies, and services for the life of the project. Employees would use salaries and wages to purchase goods and services from other businesses. Those businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local and regional economy. This effect of indirect (jobs, sales, and income generated) and induced (employees' spending for local goods and services) spending continues with subsequent rounds of additional spending, which is gradually diminished through savings, taxes, and expenditures made outside the area.

Promoting Stable Electricity Prices

Traditional base load energy prices have increased by roughly 4 percent per year in recent years and wholesale electricity pricing during peak hours has also increased with increased demand for energy and the rising cost of fossil fuels. A solar plant, such as the proposed facility, can produce electricity during peak demand periods when prices are highest and energy is most needed. This helps to relieve stress on the grid during peak hours, preventing the need to call up peaker plants and promoting stable electricity prices.

Reducing Reliance on Imported Fuels

Once the proposed facility is completed, it will be able to operate completely independently from any imported fuels given that no imported fuels are required in the solar electricity generation process.

Protecting Public Health

Once the facility is operational, it will produce zero greenhouse gas emissions in the electricity generation process. Based on project build out of up to 250MW, this will off-set approximately 229,500 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2

equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the city of El Centro. El Centro has a low-income rural population in Imperial County. The plant is expected to create local employment opportunities both during the construction and operating periods. Furthermore, Imperial County will benefit from millions of dollars in property tax assessments over the course of the Project lifecycle. These funds will be used to provide civil services for local communities.

4.14.1.4 Alternative 3-Reduced Solar Energy Facility Site

A. Socioeconomic Conditions

Indicator 1: Induce substantial growth in an area, either directly or indirectly.

Indicator 2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Indicator 3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Similar to the Proposed Action, the workforce for the Alternative 3-Reduced Solar Energy Facility Site is expected to consist of 285 workers during peak construction periods. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 285 temporary construction workers would result in a 0.20% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to arise from the local population and would not result in short-term growth-inducing impact. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. The construction activities are expected to require approximately 17 months. Some of the construction workforce would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Typically, non-local skilled craft workers do not bring families with them on these short-term construction assignments. Therefore, most are expected to stay in local hotels or rental housing units. The California Department of Finance estimates Imperial County's housing vacancy rate was 10.91 percent on January 1, 2010, which equated to over 6,100 vacant housing units. Therefore, based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Alternative 3-Reduced Solar Energy Facility Site. As such, the Alternative 3-Reduced Solar Energy Facility Site would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, the Alternative 3-Reduced Solar Energy Facility Site's

impacts on housing, as a result of construction and operation of the Alternative 3-Reduced Solar Energy Facility Site is not considered a significant impact under CEQA.

Furthermore, as discussed above, the long-term operations and maintenance of the Alternative 3-Reduced Solar Energy Facility Site would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Alternative 3-Reduced Solar Energy Facility Site would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Alternative 3-Reduced Solar Energy Facility Site does not provide any infrastructure, which would indirectly induce substantial population growth. For these reasons, the Alternative 3-Reduced Solar Energy Facility Site's impacts with regard to directly inducing substantial growth are not considered a significant impact under CEQA.

The Alternative 3-Reduced Solar Energy Facility Site would be constructed in an uninhabited area. The portion of the project site within the County of Imperial was previously used for agricultural production, but has been fallow for many years and the transmission line corridor is located on existing BLM land that is currently designated as a utility corridor. Therefore, the Alternative 3-Reduced Solar Energy Facility Site would not displace a substantial number of people or existing housing. In addition, the proposed transmission line would be constructed within an area on BLM land currently designated as a utility corridor and would not physically divide any community. Therefore, no impact under CEQA is identified for this issue area.

The Alternative 3-Reduced Solar Energy Facility Site would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Alternative 3-Reduced Solar Energy Facility Site's impacts with regard to this issue area are less than significant. Rather, the Alternative 3-Reduced Solar Energy Facility Site would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

B. Environmental Justice

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site's minority population percentages in the Imperial County area are predominately Hispanic or Latino composition. This is considerably higher than for California as a whole. The project site is located within Imperial County Census Tract 012301, which had a total year 2000 population of 5,202. This census tract has predominately Hispanic or Latino ethnic composition, with Hispanics/Latinos making up approximately 45.4 percent of the overall population. Caucasians comprise the next highest group (25.5 percent) among one-race individuals. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consists of minority and low-income individuals. However, as discussed below, the Alternative 3-Reduced Solar Energy Facility Site is considered a public benefit and would not result in environmental effects to the minority population residing within and surrounding the Imperial County area. The Alternative 3-Reduced Solar Energy Facility Site would not displace any residents or traverse an established community.

The solar facility is zoned General Agriculture (A-2), General Agriculture Rural (A-2-R) and Heavy Agriculture (A-3). Pursuant to Title 9, Division 5, Chapter 9 "Solar Energy Plants" is a conditionally-permitted use in the A-2, A-2-R, and A-3 zones. Thus, the solar energy facility use is consistent with the Land Use Ordinance. The surrounding area is zoned similar to the Alternative 3-Reduced Solar Energy Facility Site (A-2, A-2-R, and A-3 zones) and solar energy plants would be permitted in these surrounding areas. The surrounding area is also zoned Government/Special (G/S). Pursuant to Title 9, Division 5, Chapter 9, hazardous materials disposal and hazardous materials treating facilities are conditionally-permitted uses in the G/S zone. The operation of a solar energy facility on the site is less intensive than hazardous materials disposal or treating facilities. As depicted on Figure 2-5 of this EIR/EA, the transmission line and associated access road would be located entirely within a designated utility corridor on BLM lands. This area is desert lands and is not within an established community that would be affected by its development and operation.

Implementation of the Alternative 3-Reduced Solar Energy Facility Site will not result in the loss of agricultural, or other type of employment because the Alternative 3-Reduced Solar Energy Facility Site is being constructed on a combination of currently fallow agricultural land and currently undeveloped BLM lands. Rather, the Alternative 3-Reduced Solar Energy Facility Site will create employment opportunities during the short-term construction phase and long-term operation of the project. As such, the construction and operation of the solar energy facility site is considered a public benefit by providing employment opportunities to low-income and minority populations in the area. The placement of the Alternative 3-Reduced Solar Energy Facility Site in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is now low income or minority.

C. Beneficial Effects

The following describes the beneficial effects of the Alternative 3-Reduced Solar Energy Facility Site on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during peak hours, solar power can enhance grid stability by matching generation to the daily electric load profile. Although solar power is an intermittent source of electric energy, the on-site Solar Meteorological Station(s) will provide real-time data for reliable electrical generation predictions and coordination with the CAISO.

Economic Benefits

Similar to the Proposed Action, noteworthy public benefits of the Alternative 3-Reduced Solar Energy Facility Site include the direct, indirect, and induced impacts of the project. The dollars spent on or resulting from the construction and operation of the Alternative 2-Alternative Transmission Line Corridor would have a ripple effect on the local economy.

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site would require workers, supplies, and services for the life of the project. Employees would use salaries and wages to purchase goods and services from other businesses. Those businesses make their own purchases and hire employees, who also spend their salaries and wages throughout the local and regional economy. This effect of indirect (jobs, sales, and income generated) and induced (employees' spending for local goods and services) spending continues with subsequent rounds of additional spending, which is gradually diminished through savings, taxes, and expenditures made outside the area.

Promoting Stable Electricity Prices

Traditional base load energy prices have increased by roughly 4 percent per year in recent years and wholesale electricity pricing during peak hours has also increased with increased demand for energy and the rising cost of fossil fuels. A solar plant, such as the proposed facility, can produce electricity during peak demand periods when prices are highest and energy is most needed. This helps to relieve stress on the grid during peak hours, preventing the need to call up peaker plants and promoting stable electricity prices.

Reducing Reliance on Imported Fuels

Once the proposed facility is completed, it will be able to operate completely independently from any imported fuels given that no imported fuels are required in the solar electricity generation process.

Protecting Public Health

Once the facility is operational, it will produce zero greenhouse gas emissions in the electricity generation process. Based on project build out of up to 250MW, this will off-set approximately 229,500 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the city of El Centro. El Centro has a low-income rural population in Imperial County. The plant is expected to create local employment opportunities both during the construction and operating periods. Furthermore, Imperial County will benefit from millions of dollars in property tax assessments over the course of the Project lifecycle. These funds will be used to provide civil services for local communities.

4.14.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no effects on socioeconomic conditions and environmental justice from the Alternative 4-No Action/No Project Alternative.

4.14.1.6 CEQA Summary

Implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would not result in a significant socioeconomic conditions and environmental justice impact under CEQA and no mitigation is required

4.14.2 NEPA Environmental Assessment

A. Proposed Action

Based on the analysis provided above under Section 4.14.1.1, the Proposed Action would not trigger any other development that would place socioeconomic/environmental justice burdens on the County of Imperial and nearby cities.

The Proposed Action is expected to consist of 285 workers during the temporary construction phase and approximately four fulltime employees during operations and maintenance of the proposed facilities. Some of the workers would be recruited locally and some would be specialized technical workers from outside of the local area. Based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Proposed Action. The Proposed Action would not directly induce substantial growth in the area because the Proposed Action would be constructed in an uninhabited area. Therefore, the Proposed Action would not displace people or existing housing.

Based on the analysis provided above under Section 4.14.1.1, the Proposed Action would result in minor, if any, direct socioeconomic impacts. The Proposed Action would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit low-income and minority populations in the area.

B. Alternative 1-Alternative Transmission Line Corridor

The Socioeconomic Conditions and Environmental Justice impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2-Alternative Transmission Line Corridor

The Socioeconomic Conditions and Environmental Justice impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Socioeconomic Conditions and Environmental Justice impacts for Alternative 3-Reduced Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above in Section 4.14.1.5, the project would not be constructed if Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on socioeconomic conditions and environmental justice from Alternative 4-No Action/No Project Alternative.

4.14.3 Mitigation Measures and Residual Impacts

Based on the impact analysis above, no mitigation measures are required to address impacts to social and environmental justice, and therefore no analysis of residual impacts or the impacts of mitigation measures is necessary.

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4.15 Recreation

NEPA Indicators

This EIR/EA analyzes whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas;*

Indicator 2: *Reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas; and/or,*

Indicator 3: *Diminish the enjoyment of existing recreational opportunities.*

CEQA Significance Criteria

For the purposes of this EIR/EA, a recreation impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alterntaive Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 4: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or,*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

Methodology

The Proposed Action was evaluated for its impacts on parks and recreational services based on a review of the CDCA Plan and Imperial County General Plan, in addition to a field reconnaissance of the project site.

4.15.1 CEQA Environmental Analysis

4.15.1.1 Proposed Action

Indicator 1: *Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas.*

Indicator 2: *Reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas.*

Indicator 3: *Diminish the enjoyment of existing recreational opportunities.*

Indicator 4: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

The solar energy facility of the Proposed Action does not involve the construction of recreation facilities. Furthermore, the Proposed Action is the construction and operation of a solar energy facility and would not contain a residential component. Because the Proposed Action would not contain a residential component, it would not increase the use of an existing neighborhood or regional park or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated and would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, no significant recreation impact under CEQA is identified with the construction of the solar energy facility site.

As discussed in EIR/EA Section 6.1.2 Growth Inducing Impacts, the Proposed Action does not involve the development of permanent residences that would result in a direct population growth in the area. The construction workforce for the Proposed Action is expected to reach a peak of approximately 285 temporary workers. After construction, no permanent construction workers would be hired. The Proposed Action would require the employment of four full-time personnel and one security guard for the operation of the solar energy facility. As such, the Proposed Action would not induce substantial growth in the area. Development of the Proposed Action would not require a need for the construction or expansion of recreational facilities.

The Proposed Action's transmission line and proposed access road would be located within an area currently designated by the BLM's CDCA as Utility Corridor "N." The purpose of the Utility "N" Corridor is to provide a designated area within the BLM lands for utility structures such as transmission lines and to group these utilities together in one area rather than allow utilities to be scattered throughout BLM lands.

The entire transmission line site and proposed access road are located within the Yuha Desert. The CDCA Plan designates this area as Multiple-Use L (Limited Use). The Limited Use designation is suitable for recreation "…which generally involves low to moderate use densities." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. Transmission lines and proposed access road would not limit the use of these routes. With the installation of the transmission line and proposed access road within the designated Utility Corridor "N", the Proposed Action would not preclude the surrounding BLM lands to be used for recreational uses, such as OHV recreation, and impacts to recreational uses would be minimized. As depicted on Figure 3.15-1 of this EIR/EA, the proposed transmission line corridor, which includes the proposed access road does not traverse or impacts any designated limited routes.

The construction of the transmission line corridor proposed under the Proposed Action would not directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas; reduce the scenic, biological, cultural, geologic, or other important factors that

contribute to the value of Federal, State, local, or private recreation facilities or wilderness areas; or, diminish the enjoyment of existing recreational opportunities. As discussed above, the Proposed Action will not increase use of recreational facilities or require the construction of new facilities. Therefore, the Proposed Action will not have any significant effects on recreational values under CEQA.

4.15.1.2 Alternative 1-Alternative Transmission Line Corridor

Indicator 1: Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas.

Indicator 2: Reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas.

Indicator 3: Diminish the enjoyment of existing recreational opportunities.

Indicator 4: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Indicator 5: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Alternative 1-Alternative Transmission Line Corridor would be on the same project site as the Proposed Action. Similar to the Proposed Action, the alternative transmission line corridor and proposed access road would be developed within the designated Utility Corridor "N" located on existing BLM lands, which are intended for such facilities and would not preclude the use of BLM lands for OHV recreation. In addition, Alternative 1-Alternative Transmission Line Corridor would not develop access roads that would create a corridor for OHV use. As depicted on Figure 3.15-1 of this EIR/EA, the proposed transmission line corridor, which includes the proposed access road, does not traverse or impacts any designated limited routes.

With regards to the solar energy facility site, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would not increase the use of a existing recreational facility and does not the include the construction of a recreational facility. Therefore, similar to the Proposed Action, Alternative1-Alternative Transmission Line Corridor would not result in a significant impact under CEQA to recreation.

4.15.1.3 Alternative 2-Alternative Transmission Line Corridor

Indicator 1: Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas.

Indicator 2: Reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas.

Indicator 3: Diminish the enjoyment of existing recreational opportunities.

Indicator 4: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

Alternative 2-Alternative Transmission Line Corridor would be on the same project site as the Proposed Action. Similar to the Proposed Action, the alternative transmission line corridor would be developed within the designated Utility Corridor "N" located on existing BLM lands, which are intended for such facilities and would not preclude the use of BLM lands for OHV recreation. In addition, Alternative 2-Alternative Transmission Line Corridor would not develop access roads that would create a corridor for OHV use. As depicted on Figure 3.15-1 of this EIR/EA, the proposed transmission line corridor, which includes the proposed access road, does not traverse or impacts any designated limited routes.

With regards to the solar energy facility site, similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor would not increase the use of a existing recreational facility and does not the include the construction of a recreational facility. Therefore, similar to the Proposed Action, Alternative2-Alternative Transmission Line Corridor would not result in a significant impact under CEQA to recreation.

4.15.1.4 Alternative 3-Reduced Solar Energy Facility Site

Indicator 1: *Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas.*

Indicator 2: *Reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas.*

Indicator 3: *Diminish the enjoyment of existing recreational opportunities.*

Indicator 4: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

Alternative 3-Reduced Solar Energy Facility would be on the same project site as the Proposed Action, but within a reduced size. Similar to the Proposed Action, the transmission line corridor would be developed within the designated Utility Corridor "N" located on existing BLM lands, which are intended for such facilities and would not preclude the use of BLM lands for OHV recreation. In addition, Alternative 3-Reduced Solar Energy Facility would not develop access roads that would create a corridor for OHV use. As depicted on Figure 3.15-1 of this EIR/EA, the proposed transmission line corridor, which includes the proposed access road, does not traverse or impacts any designated limited routes.

With regards to the solar energy facility site, similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility would not increase the use of a existing recreational facility and does not the include the construction of a recreational facility. Therefore, similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility would not result in a significant impact under CEQA to recreation.

4.15.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, no recreation impacts would occur from the Alternative 4-No Action/No Project Alternative.

4.15.1.6 CEQA Summary

Implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative will not result in significant recreation impacts under CEQA. Therefore, no mitigation is required.

4.15.2 NEPA Environmental Assessment

4.15.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above in Section 4.15.1.1, the Proposed Action's transmission line is on BLM land within an area currently designated by the BLM's CDCA as Utility Corridor "N." The purpose of the Utility Corridor "N" is to provide a designated area within the BLM lands for utility structures such as transmission lines and to group these utilities together in one area rather than allow utilities to be scattered throughout the BLM lands. In addition, the entire transmission line site and proposed access road are located within the Yuha Desert. The CDCA Plan designates this area as Multiple-Use L (Limited Use). The Limited Use designation is suitable for recreation "…which generally involves low to moderate use densities." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. However, the transmission line and proposed access road would not limit the use of these routes.

The construction of the transmission line and proposed access road under the Proposed Action would not directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas; reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreation facilities or wilderness areas; or, diminish the enjoyment of existing recreational opportunities.

As such, the Proposed Action would not directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas; reduce the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreation facilities or wilderness areas; or diminish the enjoyment of existing recreational opportunities.

B. Alternative 1-Alternative Transmission Line Corridor

The Recreation impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

C. Alternative 2 – Alternative Transmission Line Corridor

The Recreation impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

D. Alternative 3-Reduced Solar Energy Facility Site

The Recreation impacts for Alternative 3-Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

E. Alternative 4-No Action/No Project Alternative

Based on the analysis provided above, the project would not be constructed if Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on recreation from the Alternative 4-No Action/No Project Alternative.

4.15.3 Mitigation Measures and Residual Impacts

Based on the impact analysis above, no mitigation measures are required to address impacts to recreational resources, and therefore no analysis of residual impacts or the impacts of mitigation measures is necessary.

4.16 Special Designations

There are no significance criteria for assessing impact thresholds for Special Designations under CEQA; however, according to the BLM's NEPA Handbook, impacts to special designations areas must be analyzed.

NEPA Methodology

The analysis of the effects of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative must comply with NEPA requirements given the BLM land jurisdiction related to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, and Alternative 4-No Action/No Project Alternative. This EIR/EA will analyze whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site, or Alternative 4-No Action/No Project Alternative would:

Indicator 1: *Conflict with the management goals of any special designation area.*

The Proposed Action was evaluated for its impacts on special designations based on a review of the Wilderness Act, Federal Land Policy and Management Act (FLPMA), California Desert Conservation Area (CDCA) Plan, BLM's National Scenic Trails System, and National Wild and Scenic Rivers Act.

4.16.1 NEPA Environmental Assessment

As discussed in Section 3.16, the project site for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced Solar Energy Facility Site does not have any of the following special designations:

- Wilderness Areas and Wilderness Study Areas;
- Donated Lands;
- National Scenic and Historic Trails;
- National Wild and Scenic Rivers; and,
- BLM designated range allotments or pasture for wildlife or livestock.

No direct or indirect impacts on these special designations would occur. Therefore, they will not be discussed further in this section. The special designation considered in the following analysis is Areas of Critical Environmental Concern (ACECs).

4.16.1.1 Proposed Action

Indicator 1: Conflict with the management goals of any special designation area.

A. Areas of Critical Environmental Concern

As discussed in EIR/EA Section 4.12 Biological Resources, the BLM manages all land uses within the Yuha Basin ACEC in order to minimize impact to this sensitive area. The Proposed Action is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated "Utility Corridor N." Proposed impacts to resources discussed in EIR/EA Section 4.12 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Therefore, the Proposed Action would not conflict, directly or indirectly, with the management goals of any special designation area. However, as discussed in EIR/EA Section 4.1 Visual Resources, the Proposed Action may have a direct impact on Visual Resources by slightly affecting views of the Juan Bautista de Anza National Historic Trail, which is analyzed further in EIR/EA Section 4.1 Visual Resources.

4.16.1.2 Alternative 1-Alternative Transmission Line Corridor

The Special Designations impacts for Alternative 1-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 1-Alternative Transmission Line Corridor.

4.16.1.3 Alternative 2-Alternative Transmission Line Corridor

The Special Designations impacts for Alternative 2-Alternative Transmission Line Corridor would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 2-Alternative Transmission Line Corridor.

4.16.1.4 Alternative 3-Reduced Solar Energy Facility Site

The Special Designations impacts for Alternative 3-Reduce Solar Energy Facility Site would not change from the Proposed Action. As such, the analysis provided above for Proposed Action would apply for the Alternative 3-Reduced Solar Energy Facility Site.

4.16.1.5 Alternative 4-No Action/No Project Alternative

The project would not be constructed if the Alternative 4-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts to special designations from the Alternative 4-No Action/No Project Alternative.

4.16.2 Mitigation Measures and Residual Impacts

Based on the impact analysis above, no mitigation measures are required to address impacts to special designations, and therefore no analysis of residual impacts or the impacts of mitigation measures is necessary.