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 required 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. The NEPA document is an analysis tool the agency decision-maker uses to formulate his/her decision. Their 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 and NEPA of each identified adverse effect.

Feasible mitigation measures which could minimize adverse impacts determined significant under CEQA are specifically identified in this EIR/EA as "*mitigation measures*." This EIR/EA also states whether the adverse 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. This section also provides analysis of growth-inducing, cumulative, indirect, and unavoidable adverse effects.

This page intentionally left blank.

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/NEPA Indicators

For purposes of the EIR/EA, a significant Visual Resources 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: *Have a substantial adverse 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 adversely affect day or nighttime views in the area.*

NEPA Methodology

The overall objective of the BLM VRM System is 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 VRM System is a methodical approach to inventorying and managing scenic resources on the public lands.

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).

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 cumulatively significant impacts.

4.1.1 Environmental Consequences

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.

Existing views onto the project site are readily available from the I-8 and surrounding areas, specifically from Dunaway Road and Reynolds Road.

As discussed in Section 3.1, five 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 adverse 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 are identified as a designated scenic vistas. Therefore, development of the project site with the Proposed Action would not have a substantial adverse effect on a scenic vista. No CEQA impact 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 highway.

There are no historic structures or significant 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 or public vantage point. Therefore, the Proposed Action would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. In addition, the Juan Bautista de Anza Matil Historic Trail is located approximately 3.2 miles northeast of the Proposed Action; this trail has 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. There is the potential that the transmission facilities could be visible along portions of the trail; however, the proposed transmission towers would be similar in use and scales as the existing towers and transmission facilities in the area. Therefore, no CEQA impact to this issue area is anticipated.

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 two primary components: 1) the construction and operation of the Imperial Solar Energy Center West solar energy facility on existing agriculture land; and, 2) the construction and operation of the electrical transmission lines on adjacent 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 and there are 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 agriculture use for the construction of a temporary solar energy facility. The project area is relatively flat and substantial site grading and landform change would not be required for project development. The project site would be visually disrupted in the short-term during construction activities. Because 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., the project site is readily visible from surrounding roads and KOPs. However, these KOPs are not considered significant visual resources and no individuals are present on surrounding lands to view the site. Therefore, in the sort-term no impact to the visual character or quality is anticipated.

As discussed in Chapter 2.0 of this EIR/EA, the major generation equipment that will be installed on the project site includes solar modules; a panel racking and foundation design; inverter and transformer station; an electrical collection system; and, a switchyard. The facility would also have Auxiliary Equipment, which would include safety and security equipment and operations and maintenance facilities. The entire solar facility site would be enclosed by a security fence, which would block or screen the site from view at certain locations. However, along the I-8, views of the site would remain, as the freeway is elevated above the site.

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.

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 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 swtichyard layout and elevation. These features would be visible from surrounding roadways, and in particular the I-8 freeway which 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 installation of the proposed solar facility equipment discussed above would change the existing character of the site from a vacant and fallow land to a solar energy facility. The solar energy facility would be readily visible from I-8 because I-8 is elevated above the project site. Although aesthetics can be subjective for some traveling tourists, 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. Figure 4.1-1 provides a visual simulation of a panoramic view of the project site from KOP #5.

As depicted on Figure 4.1-1, the transmission line towers would be readily visible from I-8 and KOPs. However, the 20-foot differential from what is allowed under the existing zoning for the transmission towers on the solar energy facility site is visually insignificant and these towers would be the same height as existing facilities within the general area.

Based on preliminary engineering, Figure 4.1-2 depicts the approximate location of the transmission line towers that would be constructed within the solar energy facility site, under the County's jurisdiction. 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 is 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 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 and Board of Supervisors, 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. Figure 4.1-3 provides a visual simulation of the southern portion of the solar energy facility site from I-8 from KOP #4, 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 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 six 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

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

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

SOURCE: BRG Consulting, Inc., 2010

10/21/10

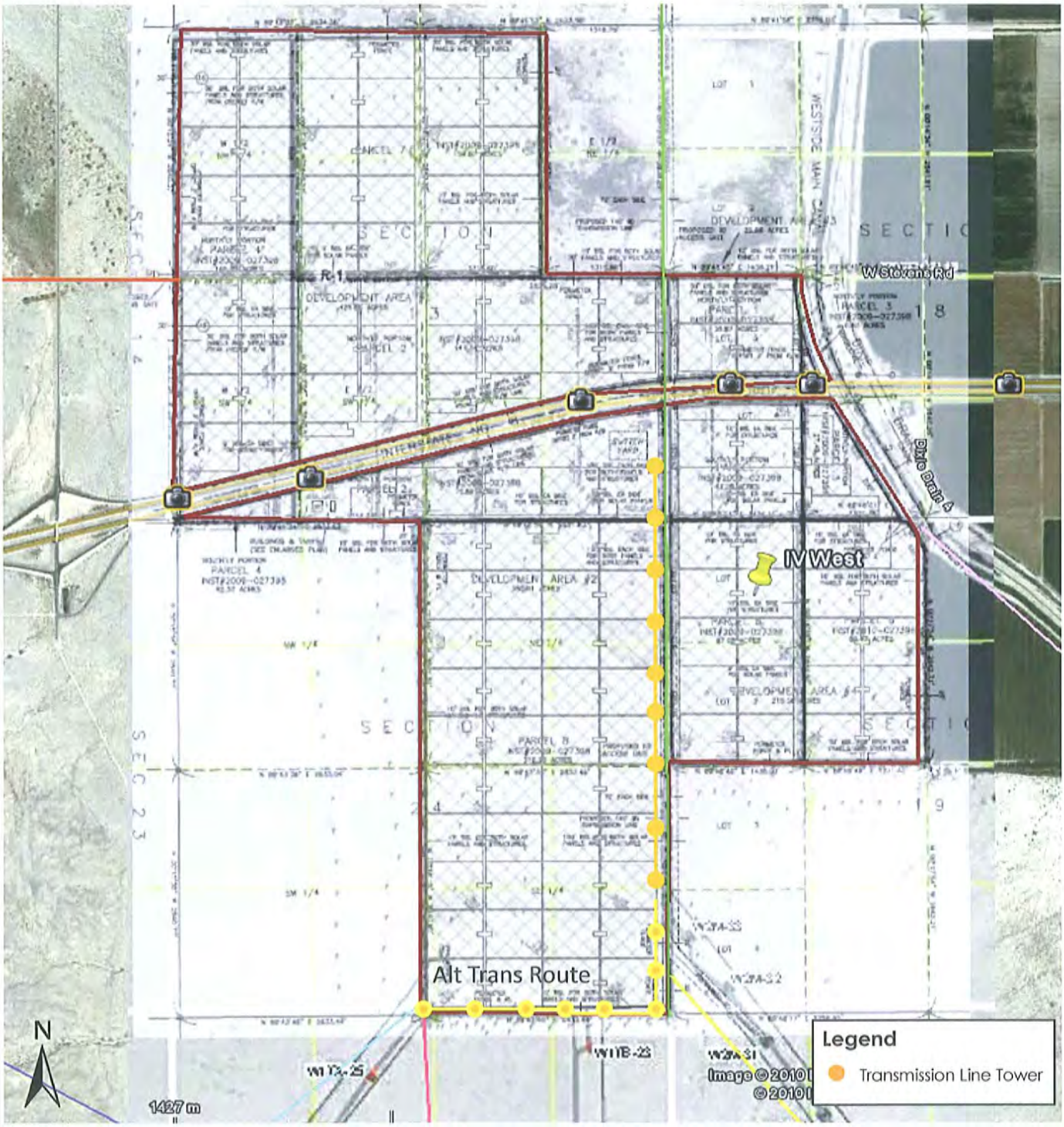
BRG CONSULTING, INC.

Imperial Solar Energy Center West

Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-1

F:\projects\1008 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-1 Visual Simulation.ai



SOURCE: BRG Consulting, Inc., 2010

10/21/10

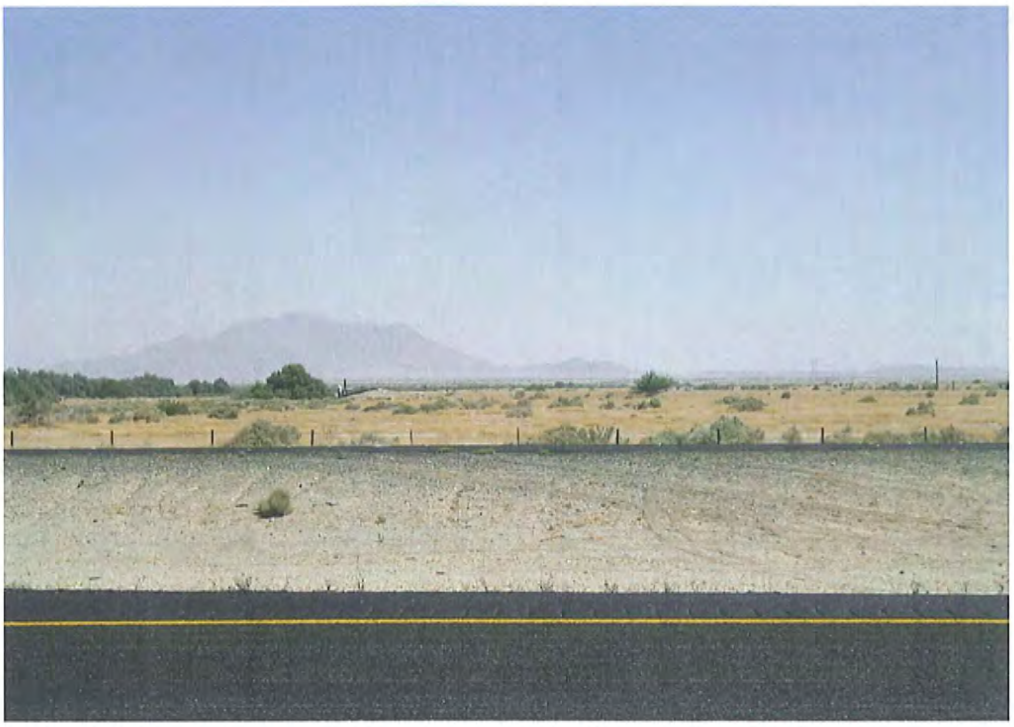
BRG CONSULTING, INC.

Imperial Solar Energy Center West

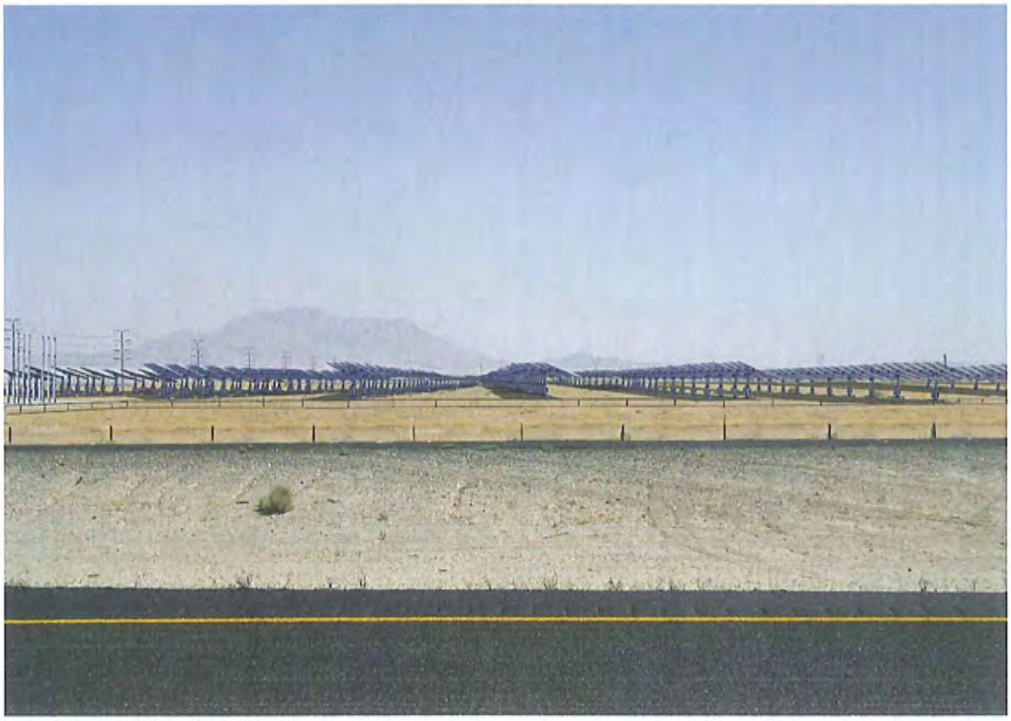
Conceptual Transmission Line Tower Locations on Solar Energy Facility Site

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 panels

SOURCE: BRG Consulting, Inc., 2010

10/21/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Visual Simulation of Solar Energy Facility Site

FIGURE 4.1-3

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-3 Visual Simulation.ai

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.

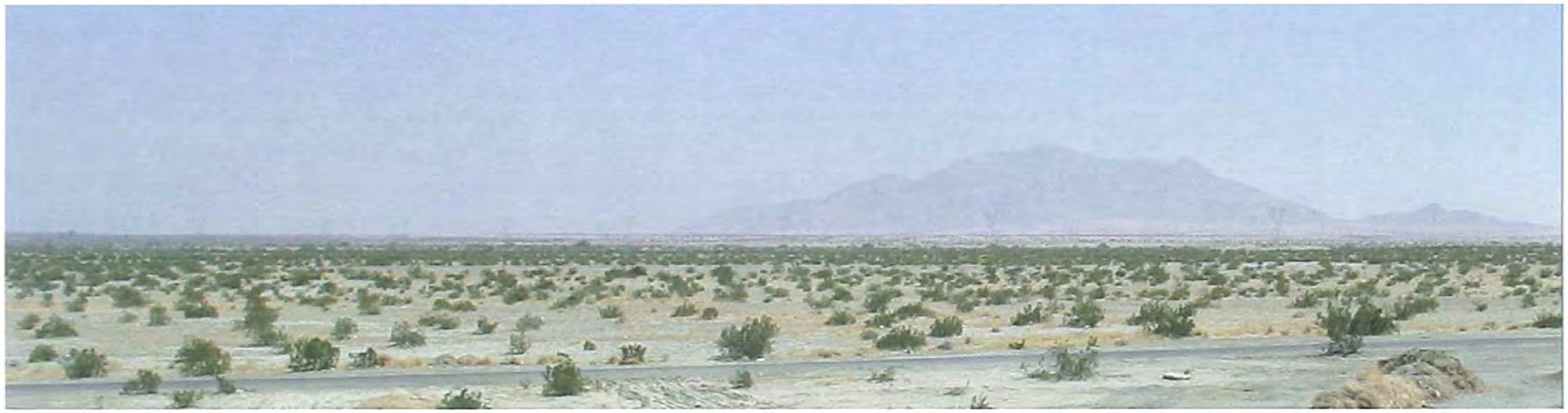
Furthermore, as discussed in Section 3.1 of this EIR/EA, the proposed solar energy facility site is located within VRM Class II area, which is designated as a "low visual sensitivity" area. Although the Proposed Action would temporarily suspend the existing visual character of the site from existing fallow agriculture land to a solar energy facility, the Proposed Action would not substantially degrade the existing visual character or quality of the site and its surroundings. Fallow agriculture fields are a common site in Imperial County, whereas a solar energy facility is not common and can be a visual point of interest for some members of the public. 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 to the utility grid at the 230 kV side of the Imperial Valley Substation, located on lands managed by the BLM, via the installation of transmission lines and towers. 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 steel lattice towers from the project site to just south of the Imperial Valley Substation where steel A-frame structures would be used for each transmission line 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 (Figures 2-17 and 2-18), deflection (Figures 2-19 and 2-20), and dead end towers (Figure 2-21). Suspension, deflection, and dead-end towers are about 140 feet high, while both deflection and suspension monopoles are about 100 feet high.

As discussed in Section 3.1 of this EIR/EA, the adjacent BLM lands is 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. Figure 4.1-4 depicts a visual simulation of the proposed transmission lines and towers. As depicted on Figure 4.1-4, the proposed transmission line corridor would be similar to the 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 would minimize additional visual degradation by making use of an area already utilized for the same purpose and by not expanding outside the designated corridor.

Furthermore, 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, no impacts to visual resources within BLM lands would occur. Therefore, because the proposed transmission line corridor would be similar to the existing corridor and the project site is designated for such use, implementation of the Proposed Action would not



Existing setting of BLM Lands and Solar Energy Facility Site

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

SOURCE: BRG Consulting, Inc., 2010

10/26/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Visual Simulation of Proposed Transmission Line Corridor on BLM Lands

FIGURE 4.1-4

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-4 Visual Simulation.ai

substantially degrade the existing visual character or quality of the site and its surroundings. 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 adversely affect day or nighttime views in the area.

Light

The solar energy facility site is currently vacant and was previously used for agricultural production; and, as such is not currently a source of light or glare. Project lighting 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. As such, the Proposed Action is not anticipated to create a new source of substantial light which 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, this issue is considered less than significant under CEQA.

Glare

The proposed photovoltaic modules are non-reflective (would not create a source of glare during sunlight hours) and convert sunlight directly into electricity. 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 adverse 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 are identified as a designated scenic vista. Therefore, development of the Alternative 1-Alterative Transmission Line Corridor would not have a substantial adverse effect on a scenic vista. 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 highway.

Similar to the Proposed Action, there are no historic structures or significant 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. In addition, the Juan Bautista de Anza Matil Historic Trail is located approximately 3.2 miles northeast of the Proposed Action; this trail has 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. There is the potential that the transmission facilities could be visible along portions of the trail; however, the proposed transmission towers would be similar in use and scales as the existing towers and transmission facilities. Therefore, no significant impact under CEQA is identified for this issue area.

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, 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 alterative transmission line corridor would visible from the same three KOPs as the Proposed Action. As depicted on Figure 4.1-4, 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. Fallow agriculture fields are a common site in Imperial County, whereas a solar energy facility is not common and can be a visual point of interest for some members of the public. 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 adversely affect day or nighttime views in the area.

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor will install 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. Therefore, Alternative 1-Alternative Transmission Line Corridor would not create a new source of substantial light or glare which 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.). 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 adverse 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 are identified as a designated scenic vista. Therefore, development of the Alternative 2-Alterative Transmission Line Corridor would not have a substantial adverse effect on a scenic vista. 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 highway.

Similar to the Proposed Action, there are no historic structures or significant 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. In addition, the Juan Bautista de Anza Matil Historic Trail is located approximately 3.2 miles northeast of the Proposed Action; this trail has 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 readily visible from this trail. There is potential that one could have a view of the transmission tower; however, the proposed transmission towers would similar to what currently exists in the area. Therefore, no significant impact under CEQA is identified for this issue area.

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, 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 alterative transmission line corridor would visible from the same three KOPs as the Proposed Action. As depicted on Figure 4.1-4, the portions of the proposed transmission line corridor for Alternative 2-Alternative Transmission Line Corridor is anticipated to be visible from KOP #2. However, 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. Fallow agriculture fields are a common site in Imperial County, whereas a solar energy facility is not common and can be a visual point of interest for some members of the public. 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 adversely affect day or nighttime views in the area.

Similar to the Proposed Action, Alternative 2-Alternative Transmission Line Corridor will install 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. Therefore, Alternative 2-Alternative Transmission Line Corridor would not create a new source of substantial light or glare which 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.). 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 adverse 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 adverse effect on a scenic vista. 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 highway.

Similar to the Proposed Action, there are no historic structures or significant 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. No significant impact under CEQA is identified for this issue area.

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. 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. No significant impact under CEQA is identified for this issue area.

D. Light and Glare

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

Similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site will install 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. Therefore, Alternative 3-Reduced Solar Energy Facility Site would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. No significant impact under CEQA is identified for this issue area.

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.

4.1.2 Mitigation Measures

No mitigation measures are proposed as no significant short-term or long-term visual resources impact has been identified for 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.

4.1.3 Impact After Mitigation

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 visual resources impact under CEQA and no mitigation is required.

This page intentionally left blank.

4.2 Land Use

CEQA Significance Criteria/NEPA Indicators

For the purposes of this EIR/EA, a significant Land Use impact 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.*

Methodology

Evaluation of potential land use impacts of the Proposed Action was based on review of relevant planning documents, including the 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 conducted by BRG Consulting, Inc. The focus of the land use analysis is on land use 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 or incompatibility (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.

4.2.1 Environmental Consequences

4.2.1.1 Proposed Action

A. Divide Established Community

Indicator 1: Physically divide an established community.

The majority of the solar energy facility site was previously used for agricultural purposes and the proposed transmission line corridor is located in the desert. The solar energy facility site is located within an unincorporated area of Imperial County and is predominately surrounded by agriculture and government land uses. The project would not divide the community as no development exists within, or in the surrounding area of the site. The transmission line corridor would extend through undeveloped desert lands, and no community exists in the area. As such, the Proposed Action would not divide an established community (such as the construction of a major roadway or other physical barrier) and no impact is identified for this issue area. 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

The construction and operation of the proposed transmission corridor 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 immediately adjacent to existing planned electrical transmission line corridors through BLM lands, and 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.

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 and the remaining 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 "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. Similarly, the proposed solar energy facility portion of the Proposed Action would require issuance of a CUP (CUP#10-0012) and an 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-R and A-3. The Proposed Action is a conditionally permitted use under the 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 project would convert the proposed solar energy facility site from fallow agricultural land to a solar energy facility. As such, although no formerly-designated recreational uses would be removed, there may be some limited recreational utility lost associated with the agriculture fields as a result of the project. 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 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 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 the A-2, A-2-R and A-3 zones subject to approval of a Conditional Use Permit from the County of Imperial. ("Transmission lines, including supporting towers, poles, microwave towers, utility substations" pare 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

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 grant of right-of-way 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 od a grant of right-of-way 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 zoning ordinance. It is an allowed use subject to issuance of a Conditional Use Permit. Furthermore, the project will be required to obtain a grant of right-of-way 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 grant of right-of-way 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 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 grant of right-of-way 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 grant of right-of-way approval from the BLM.

Source: BRG Consulting, Inc., 2010.

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 transmissions 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 is proposed adjacent to the existing and proposed transmission lines 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-3-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. With the obtainment of the variance, no significant impact related to the County of Imperial Land Use Ordinance would occur. In addition, as discussed below, the Proposed Action is consistent with the ALUCP. Therefore, no significant impact under CEQA 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 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 County of Imperial is not within the jurisdiction of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed solar energy facility would not conflict with any conservation plan. The proposed transmission corridor are located within BLM lands, and applicable conservation plans are discussed in the preceding section.

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" (see 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 that has three existing transmission lines and access roads, 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 B2 and B3 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 and B4 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 located in close proximity to more 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 associated with the Proposed Action. The proposed transmission line would be located within a designated utility corridor (Utility Corridor "N") adjacent to existing transmission lines. 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 the community as no development exists within, or in the surrounding area of the site and the project would not physically divide a community. 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 1-Alternative Transmission Line Corridor would be consistent with the provisions of the FLMPA because this proposed transmission corridor would be located immediately adjacent to existing electrical transmission line corridors through BLM lands. The solar energy facility portion of the site is on privately-owned land and is therefore not subject to the FLMPA.

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 and the remaining 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 "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. Similarly, 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, no significant impact under CEQA associated with the variance request 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 the Proposed Action 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.

As discussed above under the Proposed Action, the County of Imperial is not within the jurisdiction of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed solar energy facility would not conflict with any conservation plan. The proposed transmission corridor associated with Alternative 1-Alternative Transmission Line Corridor is located within BLM lands, and applicable conservation plans are discussed in the preceding section.

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" (see 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 B2, B3 and B9 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 B2, B3, and B9 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. 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 immediately adjacent to existing electrical transmission line corridors through BLM lands. The solar energy portion of the site is on privately-owned land and is therefore not subject to the FLMPA.

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 and the remaining portion of the project 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 "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. Similarly, 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, no significant impact under CEQA associated with the variance request 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 Proposed Action 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.

As discussed above under the Proposed Action, the County of Imperial is not within the jurisdiction of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed solar energy facility would not conflict with any conservation plan. The proposed transmission corridor associated with Alternative 2-Alternative Transmission Line Corridor is located within BLM lands, and applicable conservation plans are discussed in the preceding section.

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" (see 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 B2, B3, and B11 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 B2, B3, and B11 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 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. 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 would be consistent with the provisions of the FLMPA because this proposed transmission corridor would be located immediately adjacent to existing electrical transmission line corridors through BLM lands. The solar energy facility portion of the site is on privately-owned land and is therefore not subject to the FLMPA.

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 and the remaining portion of the project 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 "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. Similarly, 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, no significant impact under CEQA associated with the variance request 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 the Proposed Action 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.

As discussed above under the Proposed Action, the County of Imperial is not within the jurisdiction of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed solar energy facility would not conflict with any conservation plan. The proposed transmission corridor associated with Alternative 3-Reduced Solar Energy Facility is located within BLM lands, and applicable conservation plans are discussed in the preceding section.

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" (see 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 B2, B3, and B14 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 B2, B3, and B14 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.

4.2.2 Mitigation Measures

4.2.2.1 Proposed Action

With the implementation of Mitigation Measures B2 and B3, as identified in EIR/EA Section 4.12 Biological Resources, land use impacts under CEQA associated with the Proposed Action would be reduced to a level less than significant.

4.2.2.2 Alternative 1-Alternative Transmission Line Corridor

With the implementation of Mitigation Measures B2, B3, and B9, as identified in EIR/EA Section 4.12 Biological Resources, land use impacts under CEQA associated with the Alternative 1-Alternative Transmission Line Corridor would be reduced to a level less than significant.

4.2.2.3 Alternative 2-Alternative Transmission Line Corridor

With the implementation of Mitigation Measures B2, B3, and B11, as identified in EIR/EA Section 4.12 Biological Resources, land use impacts under CEQA associated with the Alternative 1-Alternative Transmission Line Corridor would be reduced to a level less than significant.

4.2.2.4 Alternative 3-Reduced Solar Energy Facility Site

With the implementation of Mitigation Measures B2, B3, and B14, as identified in EIR/EA Section 4.12 Biological Resources, land use impacts under CEQA associated with the Alternative 3-Reduced Solar Energy Facility Site would be reduced to a level less than significant.

4.2.2.5 Alternative 4-No Action/No Project Alternative

No mitigation is required, as no significant land use impact under CEQA has been identified for the Alternative 4-No Action/No Project Alternative.

4.2.3 Impact After Mitigation

4.2.3.1 Proposed Action

With the implementation of Mitigation Measures B2 and B3, as identified in EIR/EA Section 4.12 Biological Resources, the Proposed Action would not result in a significant land use impact.

4.2.3.2 Alternative 1-Alternative Transmission Line Corridor

With the implementation of Mitigation Measures B2, B3, and B9, as identified in EIR/EA Section 4.12 Biological Resources, the Alternative 1-Alternative Transmission Line Corridor would not result in a significant land use impact under CEQA.

4.2.3.3 Alternative 2-Alternative Transmission Line Corridor

With the implementation of Mitigation Measures B2, B3, and B11, as identified in EIR/EA Section 4.12 Biological Resources, the Alternative 2-Alternative Transmission Line Corridor would not result in a significant land use impact.

4.2.3.4 Alternative 3-Reduced Solar Energy Facility Site

With the implementation of Mitigation Measures B2, B3, and B14, as identified in EIR/EA Section 4.12 Biological Resources, the Alternative 3-Reduced Solar Energy Facility Site would not result in a significant land use impact.

4.2.3.5 Alternative 4-No Action/No Project Alternative

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

This page intentionally left blank.

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/NEPA Indicators

For purposes of this EIR/EA, a significant Transportation/Circulation 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: *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 significance criteria provided in Table 4.3-1.

4.3.1 Environmental Consequences

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 significantly 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. According to the applicant, 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.

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.

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.

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 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)

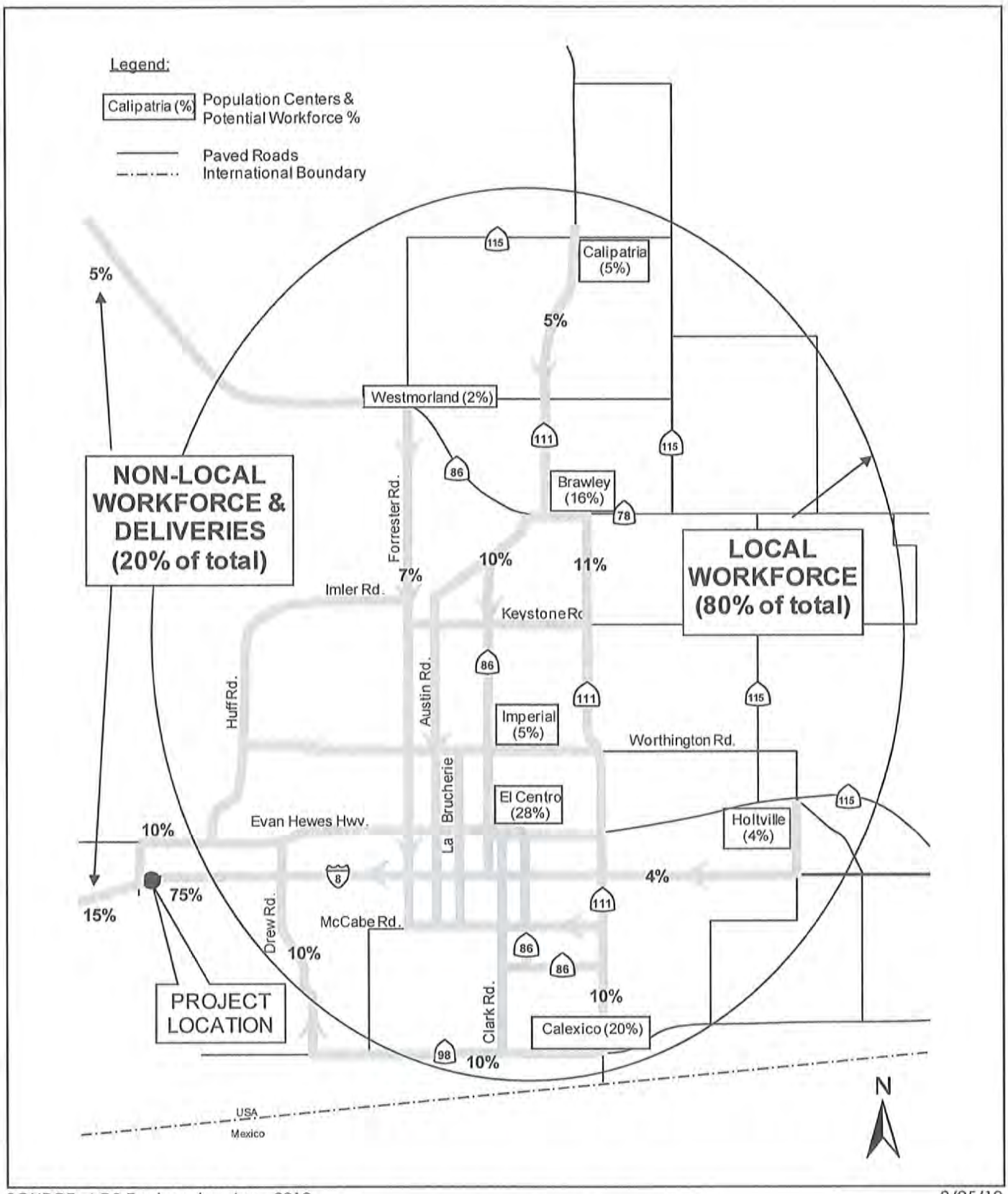
Due to recent seismic activity within Imperial Valley and neighboring areas, portions of Drew Road around the I-8 interchange have been closed. To account for these temporary closures, an alternative distribution is anticipated until Drew Road is repaired and opened. This alternative distribution is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



SOURCE: LOS Engineering, Inc., 2010

8/25/10

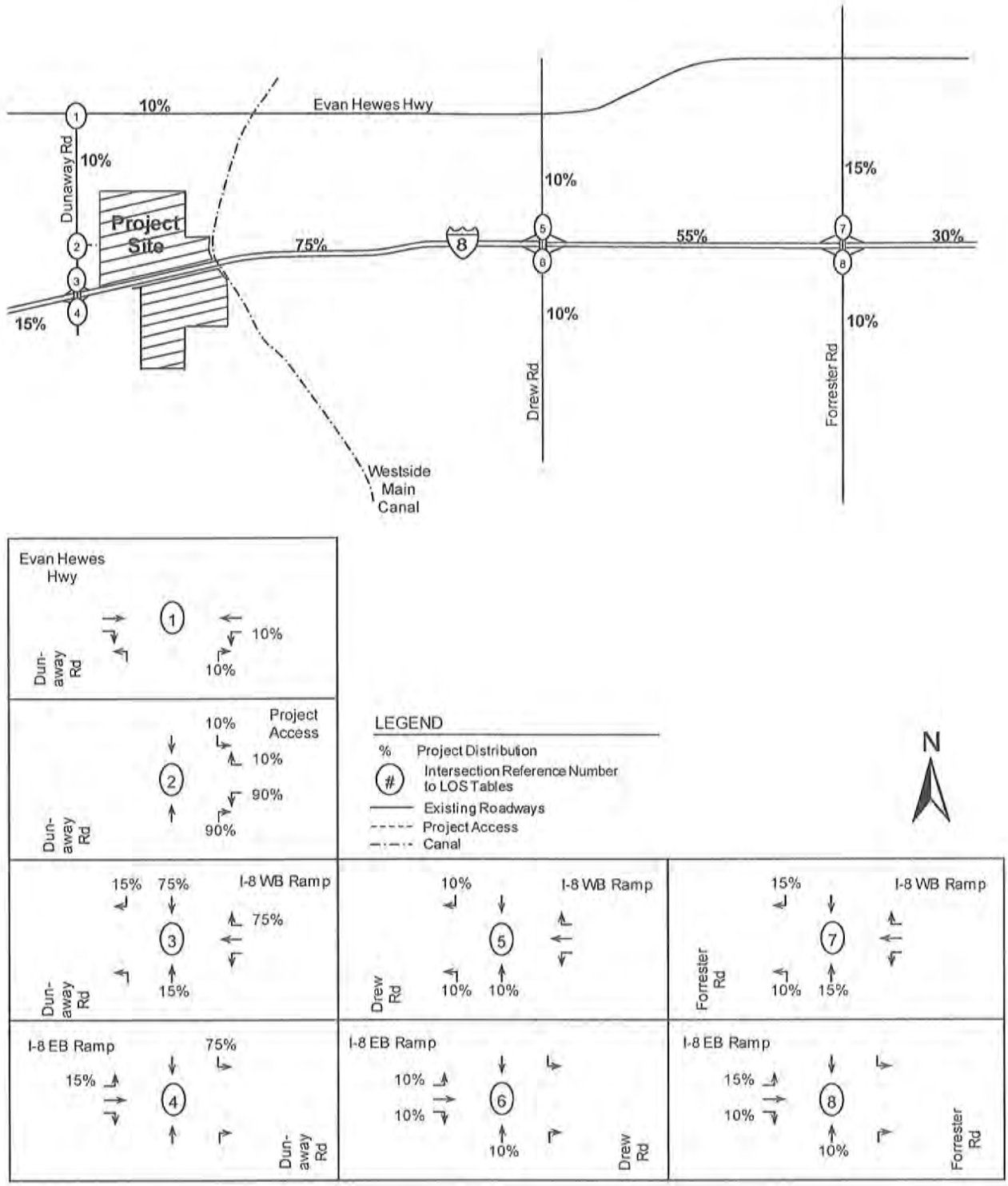
BRG CONSULTING, INC.

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

8/25/10

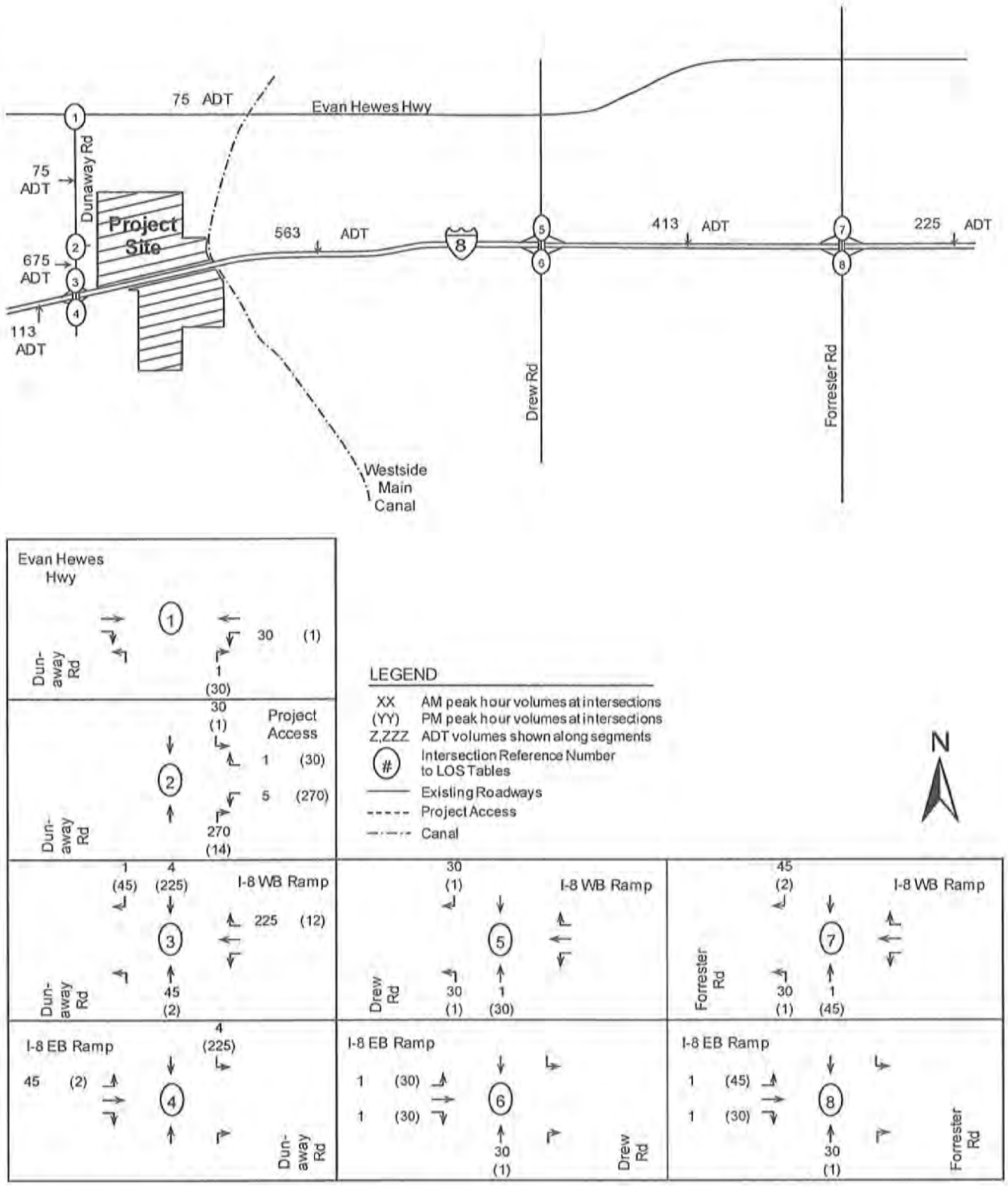
BRG CONSULTING, INC.

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

8/25/10

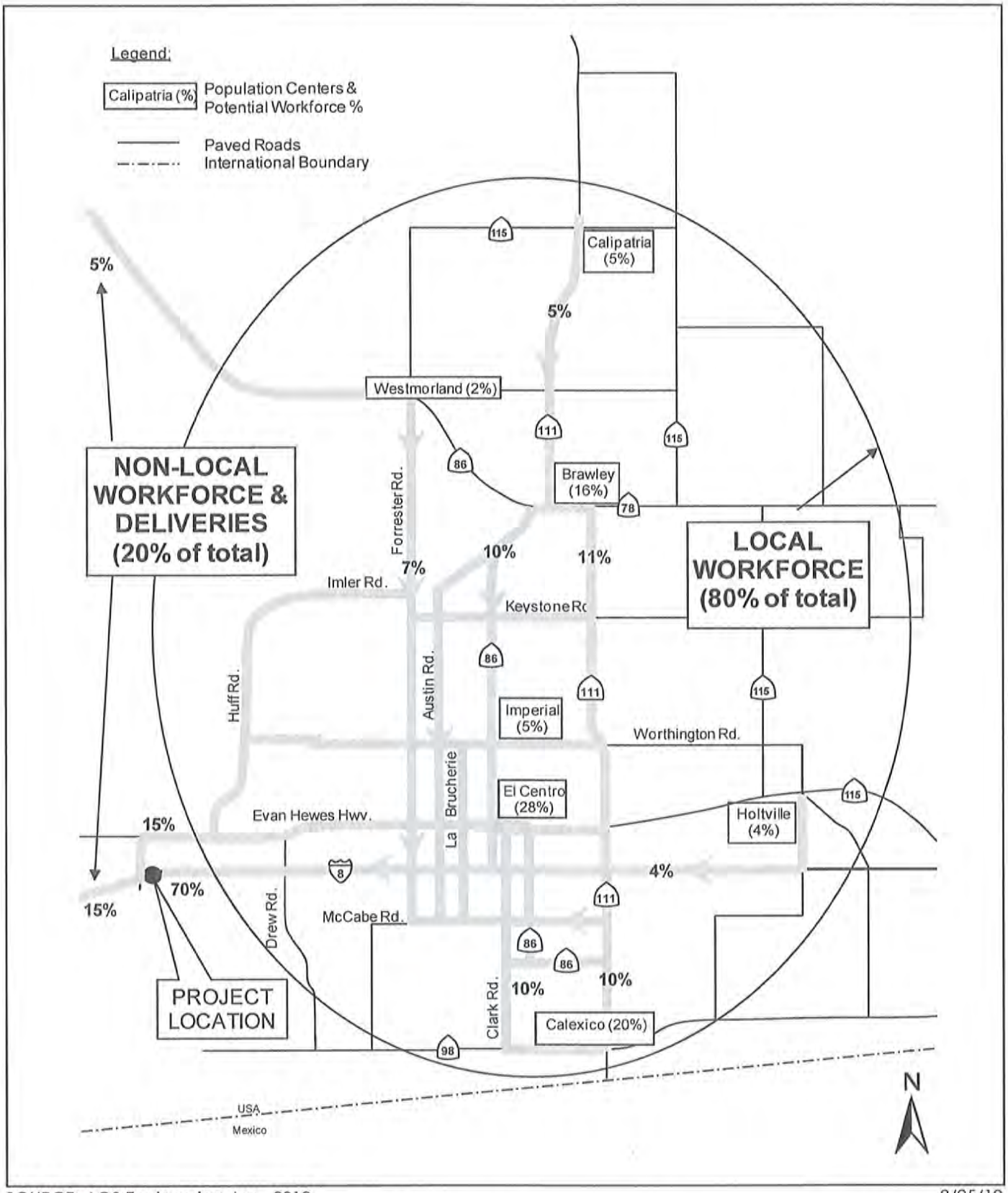
BRG CONSULTING, INC.

Imperial Solar Energy Center West

Construction Trip Assignment (Drew Interchange Open)

FIGURE 4.3-3

F:\projects\1000 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-3 Construction Trip Assign.ai



SOURCE: LOS Engineering, Inc., 2010

8/25/10

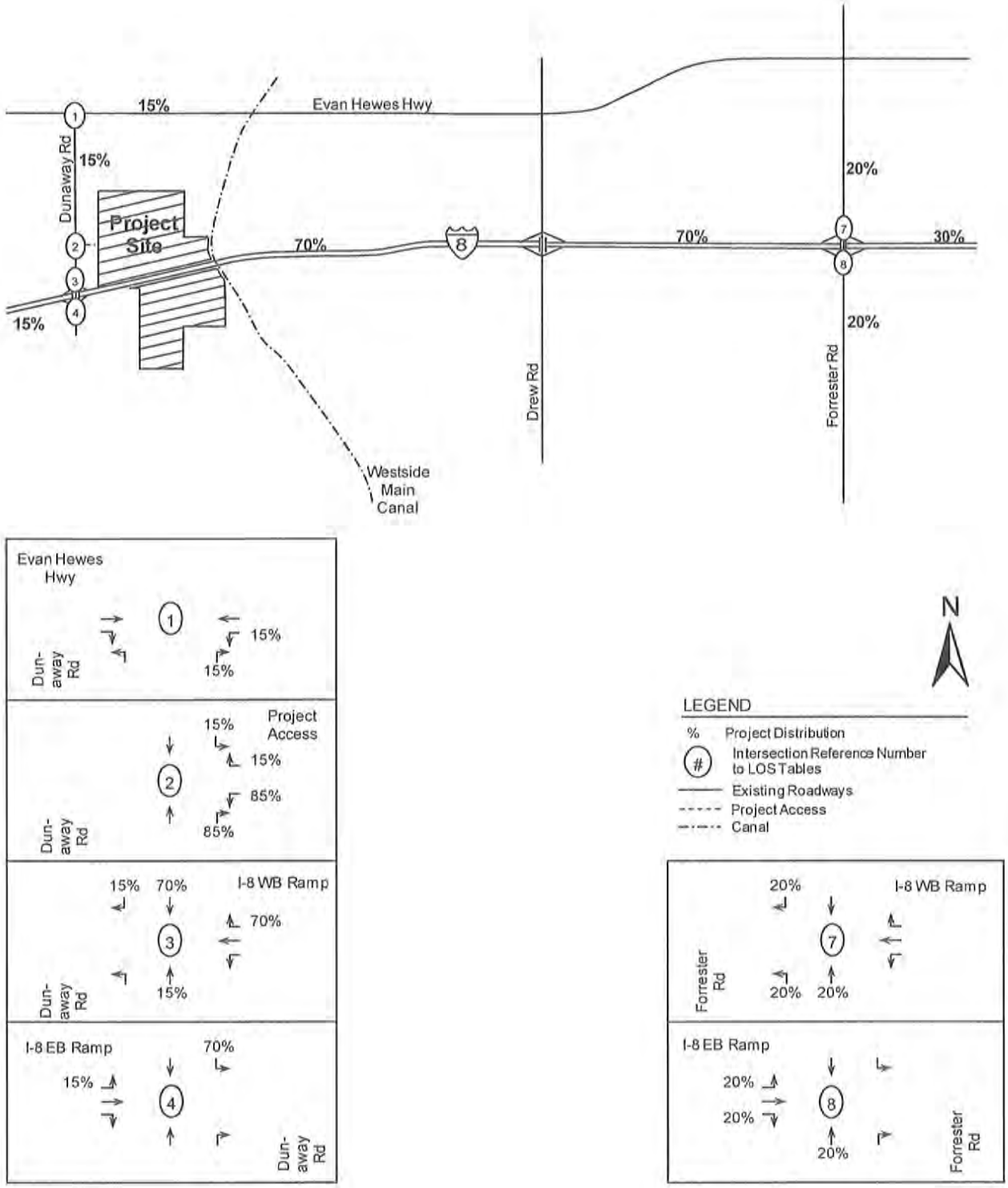
BRG CONSULTING, INC.

Imperial Solar Energy Center West

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

8/25/10

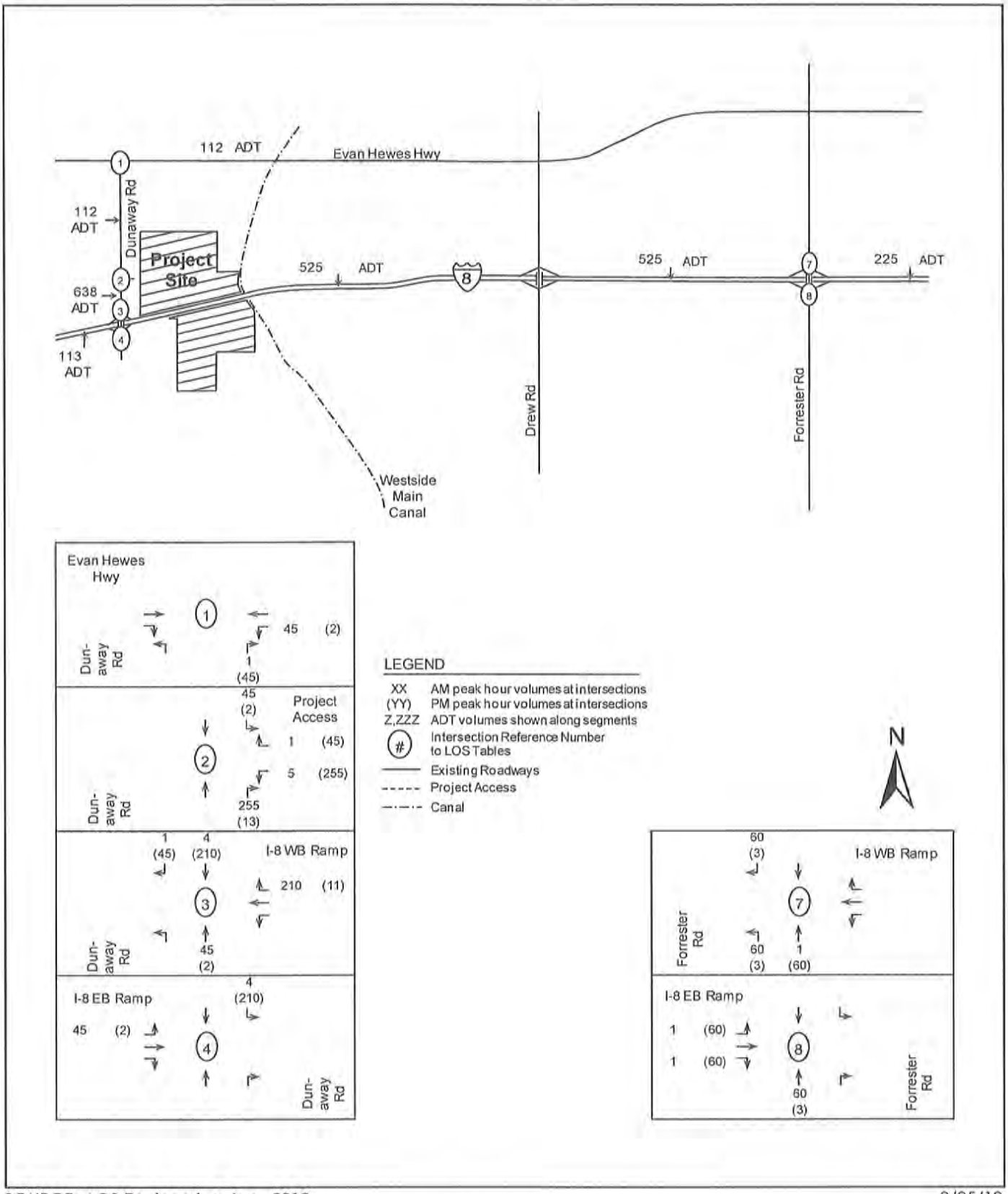
BRG CONSULTING, INC.

Imperial Solar Energy Center West

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



SOURCE: LOS Engineering, Inc., 2010

8/25/10

BRG CONSULTING, INC.

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

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.

G. Emergency Access

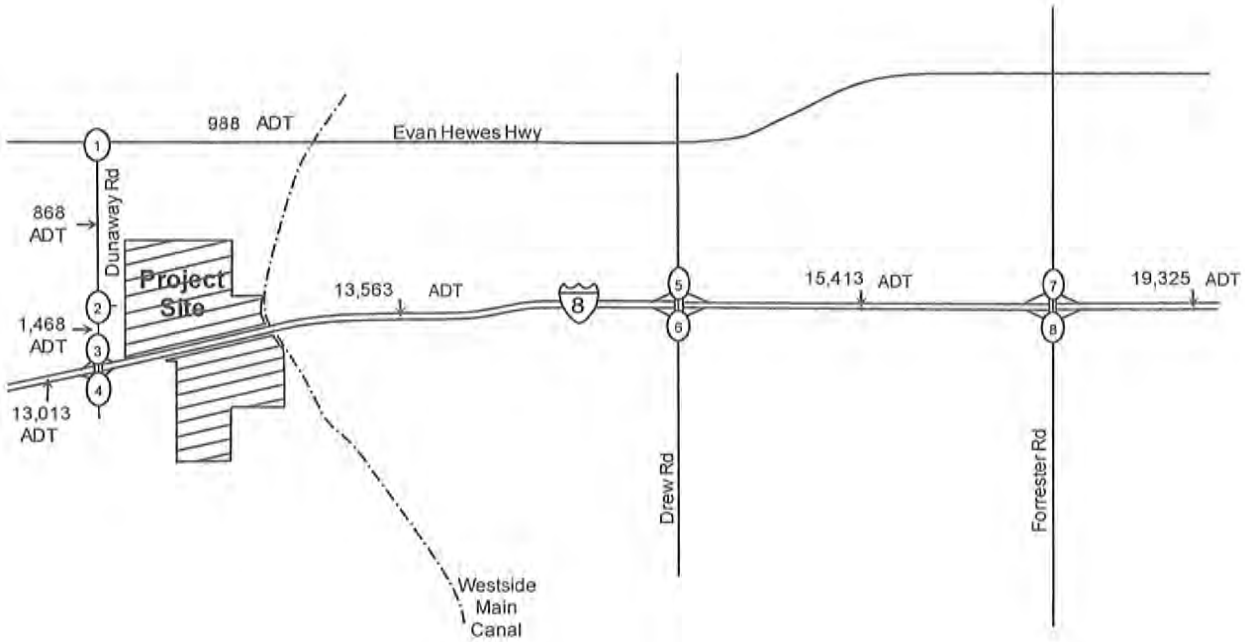
Indicator 4: Result in inadequate emergency access.

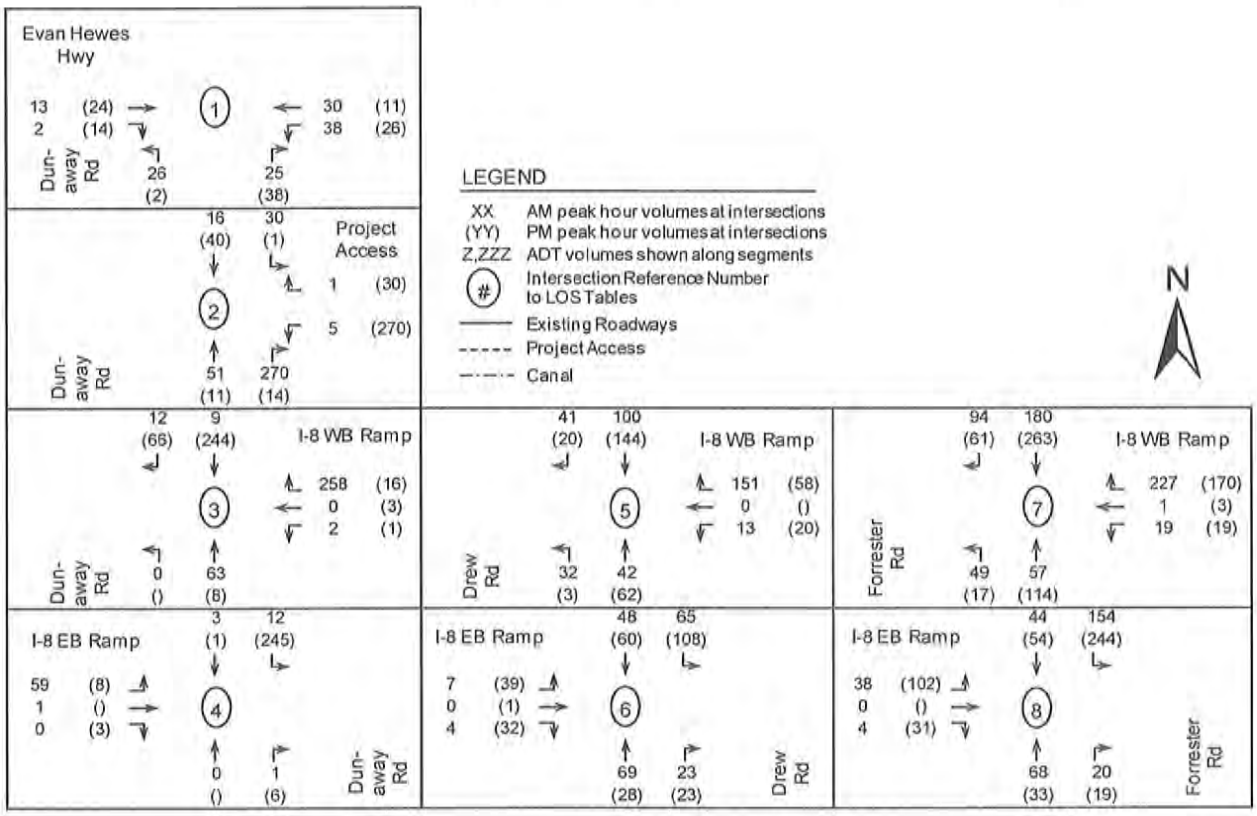
The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California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

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 &





SOURCE: LOS Engineering, Inc., 2010

8/25/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Year 2010 + Project Volumes (Drew Interchange Open)

FIGURE 4.3-7

F:\projects\1005 Imperial Solar West\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-7 Yr 2012 + Proj Vol.ai

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.

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

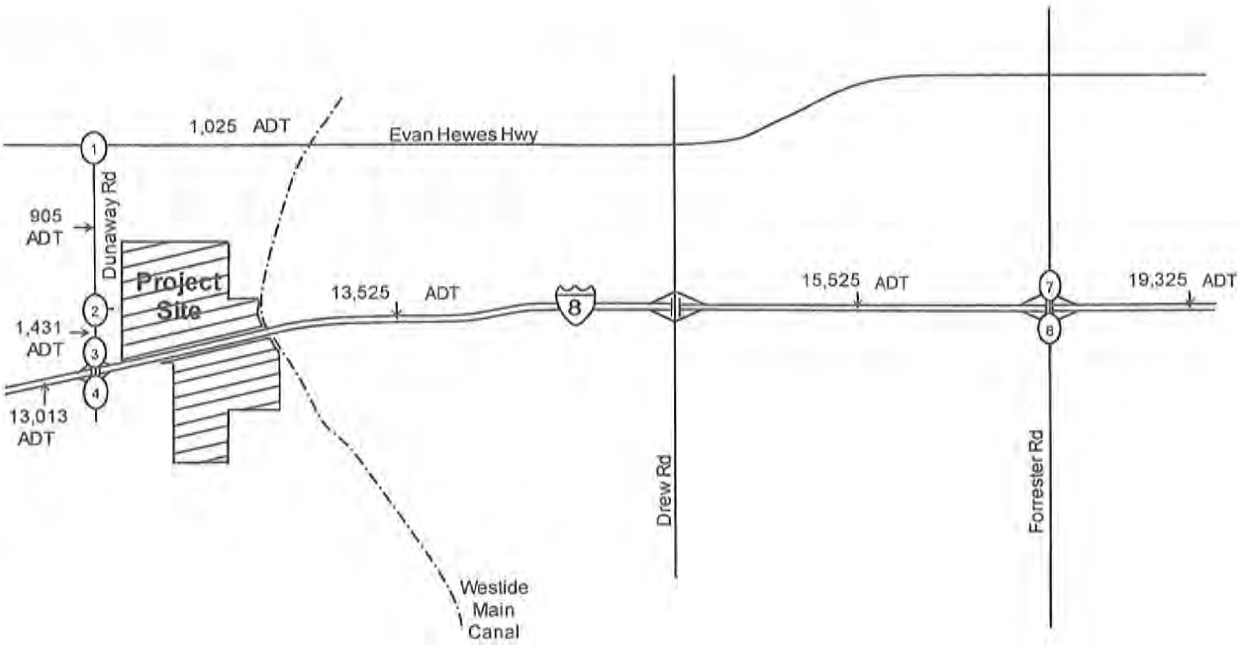
Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element. 2U = 2 lane undivided roadway. Daily volume is a 24 hour volume. LOS = Level of Service. LOS is based on actual number of lanes currently constructed. V/C = Volume to Capacity ratio. Impact? = type of impact (none, cumulative,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

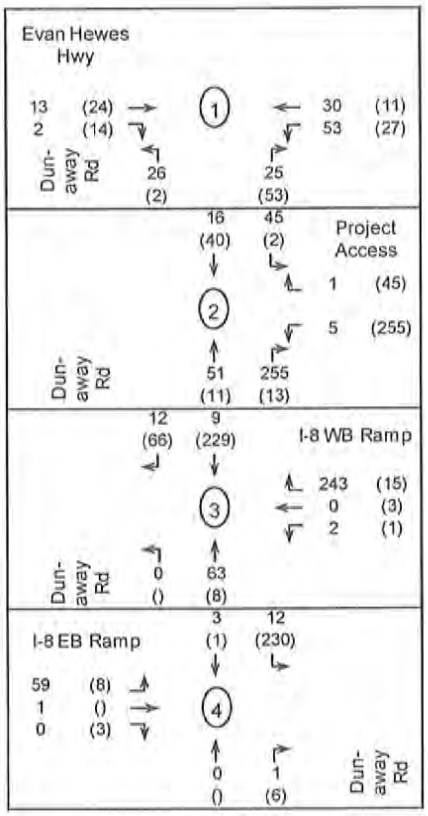
TABLE 4.3-6
Year (2012) Without and With Project Freeway LOS
(Drew Road Interchange Open)

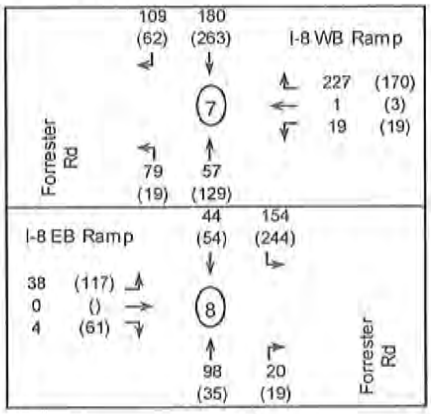
Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted Year 2012												
ADT	13,000				15,000				19,100			
Peak Hour	AM		PM		AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	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.







N

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

8/25/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Peak Year 2010 + Project Volumes (Drew Interchange Closed)

FIGURE 4.3-8

F:\projects\1008 Imperial Solar West\1st 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.

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.

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 significantly 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 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. 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 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.

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 significantly 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 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. 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 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.

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 significantly 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 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. 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 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.

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.

4.3.2 Mitigation Measures

No mitigation is proposed as no direct impacts to intersections, roadway segments, and freeway segments were identified.

4.3.3 Impact After Mitigation

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 under CEQA. Therefore, no mitigation is required. Please refer to Section 6.0 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 under CEQA. Therefore, no mitigation is required.

This page intentionally left blank.

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/NEPA Indicators

For purposes of this EIR/EA, a significant 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

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 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 the with- and without project cases. 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 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, and mitigation measures would be required.

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.

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.

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]. Development of the Proposed Action would therefore fall under the stricter ICAPCD guidelines.

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.

4.4.1 Environmental Consequences

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 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 is 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.

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

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.*

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 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).

As shown in Table 4.4-2, significant NO_x impacts are expected due to construction grading operations. NO_x emissions of 103.5 pounds per day would exceed ICAPCD's 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 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. Implementation of Mitigation Measures AQ1 and AQ2 would reduce this impact to a level less than significant under CEQA.

[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 4.4-2
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

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

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 thresholds of significance.

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.

Earthwork Activities

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).*

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 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 the SCAQMD methodology. 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 the project would generate a total fugitive dust generated load of 19.6 pounds per day. This level is far below the 150 pounds per day threshold established by the ICAPCD. Therefore, no 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 proposed threshold of significance of 55 pounds per day for this pollutant. Therefore, no impact under CEQA is expected from this phase of construction.

Unpaved road travel due to construction activities is unknown at this time. For the purposes of analysis, it is assumed that contractors' 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 air quality emissions during construction. With implementation of Mitigation Measure AQ2, the Proposed Action's construction related air quality impacts would be less than significant under CEQA.

Indirect Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

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.

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 that "…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 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.*

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, only combustion-fired PM_{10} particulates is 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 of the 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 significant 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 approach an effective no impact distance of 4.27 miles from the project site. No significant 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 significant 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 (1) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (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); or, (3) expose sensitive receptors to substantial pollutant concentrations.

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 are 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 frequently expose a substantial number of people to objectionable odors would be deemed to have a significant impact. 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 not surrounded by many people and the amount of workforce necessary to construct and operate (4 full-time employees) the facility is small. 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 exceedance 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 exceedances 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.

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

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.

C. Air Quality Plans

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

The Air Quality Attainment Plan (AQAP) for the Salton Sea Air Basin (SSAB), through the implementation of Air Quality Management Plan for Ozone (AQMP) (previously AQAP) and State Implementation Plan (SIP) for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The AQAP 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 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 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 a less than significant impact under CEQA is identified for 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.

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.

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).

Similar to the Proposed Action, a significant NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's 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 level of significance. Implementation of Mitigation Measures AQ1 and AQ2 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.

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).

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. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Indirect Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

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.

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 that "…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 Alternative 1-Alternative Transmission Line Corridor 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 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.*

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 (1) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (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); or, (3) expose sensitive receptors to substantial pollutant concentrations.

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.

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.

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.

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.

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).

Similar to the Proposed Action, a significant NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's 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 level of significance. Implementation of Mitigation Measures AQ1 and AQ2 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.

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).

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. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Indirect Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

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.

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 that "…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 Alternative 2-Alternative Transmission Line Corridor 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 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.*

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 (1) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (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); or, (3) expose sensitive receptors to substantial pollutant concentrations.

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.

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.

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.

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.

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).

Similar to the Proposed Action, a significant NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0. NO_x emissions would exceed ICAPCD's 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 level of significance. Implementation of Mitigation Measures AQ1 and AQ2 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.*

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).*

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. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Indirect Emissions Associated with Panel Manufacturing and Use

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

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.

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 that "…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 Alternative 3-Reduced Solar Energy Facility Site 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 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.*

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 (1) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (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); or, (3) expose sensitive receptors to substantial pollutant concentrations.

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.

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.

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.

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.

4.4.2 Mitigation Measures

4.4.2.1 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 Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better Tier (Tier 2+). 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)

4.4.2.2 Alternative 1- Alternative Transmission Line Corridor

Mitigation Measures AQ1 and AQ2 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.4.2.3 Alternative 2- Alternative Transmission Line Corridor

Mitigation Measures AQ1 and AQ2 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.4.2.4 Alternative 3- Reduced Solar Energy Facility Site

Mitigation Measures AQ1 and AQ2 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.

4.4.2.5 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 Impact After Mitigation

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 air quality impacts under CEQA. Mitigation Measures AQ1 and AQ2 would reduce the 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.

This page intentionally left blank.

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.

NEPA Indicators

The CEQ "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" proposed that if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. As such, for purposes of this EIR/EA, a significant Greenhouse Gas Emissions 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 of 25,000 metric tons or more of* CO_2-equivalent GHG emissions on an annual basis.

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 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 2: *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 3: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Substantial Evidence Supporting Indicator 2:

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.

(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 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). As air quality experts at SCAQMD explain, "[a] GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will

in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions." In other words, if an industrial project 's GHG emissions falls within the bottom 10 percent of industrial projects emitting GHGs then it is not cumulatively considerable. There is substantial evidence to support that a 10,000 MTC02E threshold would capture 90 percent of GHG emissions from industrial projects. As the air quality experts at SDAQMD explain, "[t]he 90 percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the following methodology. Using AQMD's Annual Emission Reporting (AER) Program staff compiled reported annual natural gas consumption for 1,297 permitted facilities for 2006 through 2007 and rank-ordered the facilities to estimate the 90th percentile of the cumulative natural gas usage for all permitted facilities. Approximately 10 percent of facilities evaluated comprise more than 90 percent of the total natural gas consumption, which corresponds to 10,000 metric tons of CO2 equivalent emissions per year (MTCO2eq/yr) (the majority of combustions emissions is comprised of CO2). This value represents a boiler with a rating of approximately 27 million British thermal units per hour (mmBtu/hour) of heat input, operating at a 80 percent capacity factor. It should be noted that this analysis did not include other possible GHG pollutants such as methane, N2O; a life-cycle analysis; mobile sources; or indirect electricity consumption. Therefore, when implemented, staff's recommended interim proposal is expected to capture more than 90 percent of GHG emissions from stationary source projects." In other words, a significance threshold of 10,000 MTCO2eq is conservative because it will likely capture more than 90 percent of the GHG emissions from industrial sources.

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.

Substantial Evidence Supporting Indicator 3:
Indicator 3 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.

4.5.1 Environmental Consequences

4.5.1.1 Proposed Action

The following provides an analysis of the potential impacts associated with construction and operation of the Proposed Action. 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. The following indicators were used for both the construction and operation analysis below:

Indicator 1: *Generate greenhouse gas emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis.*

Indicator 2: *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).*

Indicator 3: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

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.

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. Since N_2O has a GWP of 296 with respect to CO_2, the 3,895.2 result for N_2O result can be expressed as an equivalent CO_2 (CO_{2e}) level of 1,152,979.2 pounds. Assuming a worst-case scenario 365 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 and the 205,416 pound 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 365 day construction year)	4,057,884		

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

Since 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 365-day construction period, the CO_{2e} load would be 4,057,884 pounds.

Total Construction-Based Greenhouse Gas Emissions Budget

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 4.5-3 shows the total GHG emissions budget. This is less than the NEPA threshold of 25,000 metric tons or more of CO_{2e} GHG emissions on an annual basis and the CEQA threshold of 10,000 metric tons or more of CO_{2e} per year.

TABLE 4.5-3
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 365 day construction year)	5,416,279
TOTAL (converted to metric tons of CO_{2e})	2,457

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

Projected Warming Effects

With the implementation of Mitigation Measure AQ1, as provided in Section4.4 of this EIR/EA, the Proposed Action would contribute a total of 2,457 metric tons of CO_{2e} due to construction activities, which would not exceed the NEPA or CEQA thresholds identified above and is not considered a significant impact under CEQA. Nevertheless, consistent with the intent of AB 32, which is described below in more detail.

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, which 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 4.5-4 and 4.5-5 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 NEPA threshold of 25,000 metric tons or the CEQA threshold of 10,000 metric tons or more CO_{2e} per year. Therefore, the operation of the Proposed Action would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact or the environment; and, would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

TABLE 4.5-4
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 4.5-5
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. 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 4.5-6 depicts the estimated criteria pollutant emission rates from fossil-based power generation in the California grid mix and the amount of emissions displaced by the project annually.

TABLE 4.5-6
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 of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis.*

Indicator 2: *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).

Indicator 3: *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. Similar to the Proposed Action, as discussed above, with the implementation of Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA, Alternative 1-Alternative Transmission Line Corridor would contribute a total of 5,416,279 pounds of CO_{2e} due to construction activities, which when pounds are converted to metric tons of CO_{2e}, the result is 2,457 metric tons of CO_{2e}. This is less than the NEPA threshold of 25,000 metric tons of CO_{2e} GHG emissions on an annual basis and the CEQA threshold of 10,000 metric tons of CO_{2e} per year. Nevertheless, similar to the Proposed Action Alternative 1-Alternative Transmission Line Corridor would be required to be consistent with the intent of AB 32 reduction strategies. As such, with the implementation of Mitigation Measures GHG1 and GHG2, Alternative 1-Alternative Transmission Line Corridor would be consistent with AB 32 and a less than significant GHG emissions impact under CEQA would result with the implementation of Alternative 1-Alternative Transmission Line Corridor.

4.5.1.3 *Alternative 2-Alternative Transmission Line Corridor*

Indicator 1: *Generate greenhouse gas emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis.*

Indicator 2: *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).*

Indicator 3: *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. Similar to the Proposed Action, as discussed above, with the implementation of Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA,, Alternative 2-Alternative Transmission Line Corridor would contribute a total of 5,416,279 pounds of CO_{2e} due to construction activities, which when pounds are converted to metric tons of CO_{2e}, the result is 2,457 metric tons of CO_{2e}. This is less than the NEPA threshold of 25,000 metric tons of CO_{2e} GHG emissions on an annual basis and the CEQA threshold of 10,000 metric tons of CO_{2e} per year. Nevertheless, similar to the Proposed Action Alternative 2-Alternative Transmission Line Corridor would be required to be consistent with the intent of AB 32 reduction strategies. As such, with the implementation of Mitigation Measures GHG1 and GHG2, Alternative 2-Alternative Transmission Line Corridor would be consistent with AB 32 and a less than significant GHG emissions impact under CEQA would result with the implementation of Alternative 2-Alternative Transmission Line Corridor.

4.5.1.4 Alternative 3 – Reduced Solar Energy Facility Site

Indicator 1: *Generate greenhouse gas emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis.*

Indicator 2: *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).*

Indicator 3: *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. Similar to the Proposed Action, as discussed above, with the implementation of Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA, Alternative 3-Reduced Solar Energy Facility Site would contribute a total of 55,416,279 pounds of CO_{2e} due to construction activities, which when pounds are converted to metric tons of CO_{2e}, the result is 2,457 metric tons of CO_{2e}. This is less than the NEPA threshold of 25,000 metric tons of CO_{2e} GHG emissions on an annual basis and the CEQA threshold of 10,000 metric tons of CO_{2e} per year. Nevertheless, similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site would be

required to be consistent with the intent of AB 32 reduction strategies. As such, with the implementation of Mitigation Measures GHG1 and GHG2, Alternative 3-Reduced Solar Energy Facility Site would be consistent with AB 32 and a less than significant GHG emissions impact under CEQA would result with the implementation of 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.

4.5.2 Mitigation Measures

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 NEPA and CEQA thresholds. 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 Impact After Mitigation

With the implementation of Mitigation Measures AQ1, GHG1, and GHG2, the 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 greenhouse gas emissions impact under CEQA.

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/NEPA Indicators

For the purposes of this EIR/EA, a significant Geology/Soils and Mineral Resources 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: *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.*

4.6.1 Environmental Consequences

4.6.1.1 Proposed Action

The project site (which includes the Solar Energy Facility and transmission corridor) is relatively flat with no steep topography. As such, grading on the Solar Energy Facility and transmission corridor 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 unique geologic issues, with the exception of seismicity. Although the site is underlain with expansive clay soils, this condition is mitigatable by removing and replacing the expansive soils. 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 which will likely consist of removal and replacement of the upper three feet of expansive clay soils with non-expansive soils over the majority of the project site proposed for development. 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. 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), which identifies the removal of these soils prior to construction.

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. 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 solar facility 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 soil 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 clay soils have severe levels. Sulfate ions in high concentrations can attack the cementitious material in concrete, causing weakening of the cement and ultimately deterioration. The onsite sandy soil has low levels of chloride ion concentration, but clay soils have severe levels. 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 soil 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 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.*

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 and the Alternative Transmission Line Corridor) 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 solar facility portion of 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. 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 soil 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 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.

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 soil 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 and the Alternative Transmission Line Corridor) 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 solar facility portion of 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. 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 soil 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 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.

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 soil 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 and the Proposed Action Transmission Line Corridor) 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 solar facility portion of 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. 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 soil 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 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.*

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 soil 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.

4.6.2 Mitigation Measure

4.6.2.1 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.

4.6.2.2 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.

4.6.2.3 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.

4.6.2.4 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.

4.6.2.5 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 Impact After Mitigation

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 under CEQA. Mitigation Measure GS1 will reduce the geology and soils impacts to a level of less than significant under CEQA. No impact to mineral resources under CEQA 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. Thus, no mitigation is required.

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.

This page intentionally left blank.

4.7 Cultural Resources

Cultural Resources Survey for the Imperial Valley West Solar Project prepared by RECON Environmental, Inc. (August 2010) has been completed for this undertaking. The BLM is entering 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 36CFR800, the implementing procedures for the National Historic Preservation Act. The SHPO, ACHP and Tribes are critical consulting parties that will be involved in assessing a property's eligibility for the NRHP, assessment of effects, and development of measures to avoid, minimize or mitigate any potential impacts to cultural and historic properties.

Tribal Consultation Under CEQA Differs from NEPA/NHPA

Although there are some similarities in the legal requirements of CEQA, NEPA and the NHPA regarding threshold of significance, consultation requirements and mitigation of impacts to cultural resources, in this case there are enough differences between Imperial County's obligations to comply with CEQA and the BLM's requirements to comply with NEPA and the NHPA, that the analysis is not merged in this Section 4.7.

Among the key differences is that NEPA and NHPA require a tribal consultation process and require that significance determinations and mitigation measures be developed through the consultation process. However, CEQA requires Imperial County to make an independent evaluation of the significance of impacts and does not require a tribal consultation. Pub Res. Code § 21082.1(c) requires the lead agency to (1) independently review and analyze any report or declaration required by CEQA; (2) circulate draft documents that reflect its independent judgment; and (3) as part of the certification of an environmental impact report, find that the report or declaration reflects the independent judgment of the lead agency. The California legislature debated whether to include a tribal consultation requirement in CEQA, but instead opted to limit tribal consultations to certain circumstances identified in the California Planning and Zoning Law. As discussed in Section 3.7 herein, Senate Bill 18's tribal consultation requirements are not applicable to the Proposed Action and Alternatives because they do not require a general plan amendment or development of an open space management plan for a post-March 15, 2005 locally-designated open space area. Archaeological resources may also qualify as "historical resources" and PRC § 5024 requires consultation with the State Office of Historic Preservation when a project may impact historical resources located on state-owned land. The Proposed Action and Alternatives do not impact a historical resource on state-owned land. As such, compliance with CEQA does not require a consultation.

As such, the BLM has invited tribes into consultation by letter dated June 24, 2010. The BLM will initiate formal consultation with the SHPO and ACHP, which may lead to the development of a Programmatic Agreement, a Memorandum of Agreement (MOA) or other finding. At the time of circulation of the Draft EIR / EA, it is anticipated that a Memorandum of Agreement may be executed. Pursuant to Section 106 of NHPA, determinations of significant impacts and/or mitigation measures cannot be made without consultation and the Decision Record must include either an executed MOA or PA if there are any significant impacts. The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA. If there are significant impacts discovered during the consultation, then when the PA or MOA is fully executed, the Proposed Action and Alternatives

will have fulfilled the requirements of the NHPA and NEPA. The PA or MOA must be executed prior to the BLM's issuance of the Decision Record.

As such, the conclusions Imperial County may draw regarding the significance of and mitigation for the Proposed Action and Alternatives' impacts to cultural resources may differ from the BLM's post-consultation conclusions regarding the significance of and mitigation for the Proposed Action and Alternatives' impacts to cultural resources. Nevertheless, the pre-final consultation mitigation measures discussed herein are alone sufficient to support a finding that any potential significant impacts are reduced to below a level of significance for *purposes of CEQA*. To the extent the post-final consultation analysis under NEPA/NHPA reveals new information or additional, stricter mitigation is required in the signed PA or MOA, no recirculation or Supplemental EIR is required where the project proponent agreed to adopt the mitigation measure. [14 Cal. Code Regs. 15162(a)(3)(C) and (D); See also *Laurel Heights Improvement Assn. v. Regents of University of California*, 6 Cal. 4th 1112, 1146, 1129 (1993).]

NEPA Indicators

National Register of Historic Places

A property that qualifies for the NRHP is considered significant in terms of the planning process under the NHPA, NEPA, and other federal mandates. The National Register Criteria for Evaluation (36 CFR 60.4) provides guidance in determining a property's eligibility for listing on the NRHP. This states that 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, and:

A. is associated with events that have made a significant contribution to the broad patterns of our history; or

B. is associated with the lives of persons significant in our past; or

C. embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. has yielded, or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

To be eligible, sites must also have integrity. For Criteria A, B, and C, integrity means that the property must evoke the resource's period of significance to a non-historian or non-archaeologist. If site materials have been removed or vandalized to the extent that an ordinary citizen can no longer envision or grasp the historic activities that took place there, the site is said to lack integrity (National Park Service 1997:45). Typically, archaeological sites qualify for eligibility under Criterion D, research potential, so integrity in this case means that the deposits are intact and undisturbed enough to make a meaningful data contribution to regional research issues.

Under Section 106 of the NHPA subsection 800.5 (Assessment of adverse effects) criteria for determining adverse effects are as follows:

Indicator 1: *An adverse effect is found when an undertaking may alter, directly or indirectly, and 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, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance or be cumulative. Adverse effects on historic properties include, but are not limited to:*

i. Physical destruction of or damage to all or part of the property;

ii. Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

iii. Removal of the property from its historic location;

iv. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

v. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

vi. Neglect of the property, resulting in its deterioration or destruction; or

vii. Transfer, lease, or sale of the property.

CEQA Significance Criteria

The project is also subject to CEQA guidelines, therefore, effects of a proposed project on significant cultural resources, or historical resources, must be considered in the planning process. Significance criteria are 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 California Register of Historic Resource (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 significant 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.

Pursuant to CEQA Guidelines § 15064.5(c)(1) and (2), this includes an archaeological site that qualifies as a significant historical resource as described above.

Additionally, CEQA Guidelines 15064.5(c)(3) and PRC 21083.2(j), provide that if an archaeological site does not meet the historically significant criteria outlined above, but does not meet the definition of a "unique archaeological resource" in PRC 21083.2, the site shall be treated in accordance with the provisions of PRC 21083.3.2, unless the applicant and public agency elect to comply with all other applicable provisions of CEQA with regards to archaeological resources. For the Proposed Action and Alternative(s), the applicant and public agencies agree to treat any discovered unique archaeological resources as a historically significant resource.

"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.

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.

CEQA Summary

Accordingly, 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 2: *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 3: *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 4: *The project disturbs any human remains, including those interred outside of formal cemeteries.*

These CEQA thresholds are similar to the NEPA/NHPA thresholds, but are not required in this case to be made in the context of a SB 18 consultation.

4.7.1 Environmental Consequences

NEPA/NHPA Environmental Consequences

In addition to the on-going BLM consultation with affected tribes, BLM will conduct formal consultation with the SHPO and ACHP which may lead to the development of a Programmatic Agreement, a Memorandum of Agreement (MOA) or some other Finding. At the time of circulation of the Draft EIR/EA, the tribal consultation was still on going, but it is anticipated that Memorandum of Agreement will be executed, if there are significant impacts. Pursuant to Section 106 of NHPA, determinations of significant impacts and/or mitigation measures cannot be made without consultation, and the Decision Record must include either an executed MOA or executed PA if it is found that there are adverse effects. The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA. If there are significant impacts, then when the PA or MOA is fully executed, the Proposed Action and Alternatives will have fulfilled the requirements of the NHPA and NEPA. The PA or MOA must be executed prior to the BLM's approval of the Decision Record. The CEQA-based conclusions below disclose factual information that may be relevant to the BLM consultation, but they are not binding on the consultation process.

CEQA Environmental Consequences

Nine previously recorded sites were relocated, and 35 new sites were identified within the APE for all alternatives. Of the 44 sites within the APE, 38 sites will not be directly impacted by the proposed project. Of the remaining six sites, between zero and six sites will 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 sites within the APE and describes possible impacts, NRHP status and, location. Below are possible impacts described by alternative.

The following significance criteria/indicators were used to analyze the cultural resources impacts for each alternative:

NEPA Indicator 1: *An adverse effect is found when an undertaking may alter, directly or indirectly, and 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, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance or be cumulative. Adverse effects on historic properties include, but are not limited to:*

i. Physical destruction of or damage to all or part of the property;

ii. Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

iii. Removal of the property from its historic location;

iv. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

v. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

vi. Neglect of the property, resulting in its deterioration or destruction; or

vii. Transfer, lease, or sale of the property.

CEQA Indicator 2: 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 3: 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 4: The project disturbs any human remains, including those interred outside of formal cemeteries.

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 1,128-acre solar site (R-1) in addition to the Transmission Lines IVW-2 and IVW2b, which connect with the northern portion of the Substation (see 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

There are a total of 16 sites located within the Proposed Action APE. These sites are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, the Proposed Action would result in significant impacts to three newly identified sites (5726-S-7, S-8, and SR-4) located within the APE. However, Applicant Mitigation Measure CR-1 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

TABLE 4.7 -1
National Register of Historic Places Status and Potential for Impacts

Trinomial or Temporary #	Potential Impacts	NRHP Status	Type	Location
IMP-4349	None	Potentially Eligible	Temporary camp	Alternative 2
IMP-7834	None	Eligible	Westside Main Canal	All
IMP-8665	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 2
IMP-8666	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 2
IMP-8668	Access Road	Potentially Eligible*	Ceramic and lithic scatter	Alternative 2
IMP-8699	None	Potentially Eligible	Trash scatter	Alternative 2
IMP-8766	None	Potentially Eligible	Temporary camp	Alternative 2
IMP-8807	None	Potentially Eligible	Lithic scatter	Alternative 2
IMP-10522	Tower, access road	Potentially Eligible*	Ceramic and lithic scatter	Alternative 2
S-3	None	Potentially Eligible	Sparse ceramic and lithic scatter	Alternative 2
S-4	None	Potentially Eligible	Ceramic and lithic scatter	All
SR-4	Solar field	Potentially Eligible*	Lithic scatter	Proposed Action, Alternatives 1 & 2
SC-6	None	Potentially Eligible	Sparse ceramic scatter	Alternative 1
S-7	Solar field	Potentially Eligible*	Sparse ceramic and lithic scatter	Proposed Action, Alternatives 1 & 2
S-8	Solar field	Potentially Eligible*	Sparse lithic scatter	Proposed Action, Alternatives 1 & 2
S-9	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-10	None	Potentially Eligible	Ceramic and lithic scatter and historic trash scatter	Alternative 2
S-11	None	Potentially Eligible	Temporary camp	Proposed Action, Alternative 1 & 3
S-12	None	Potentially Eligible	Sparse lithic scatter	Proposed Action, Alternative 1 & 3
S-13	None	Potentially Eligible	Sparse ceramic and lithic scatter	Proposed Action, Alternative 1 & 3
S-14	None	Potentially Eligible	Lithic scatter with hearth	Proposed Action, Alternative 1 & 3
S-15	None	Potentially Eligible	Sparse lithic scatter	Proposed Action, Alternative 1 & 3
S-16	None	Potentially Eligible	Sparse lithic scatter	Alternative 1

TABLE 4.7 -1
National Register of Historic Places Status and Potential for Impacts
(cont'd.)

Trinomial or Temporary #	Potential Impacts	NRHP Status	Type	Location
S-17	None	Potentially Eligible	Sparse ceramic and lithic scatter	Alternative 1
S-18	None	Potentially Eligible	Sparse lithic scatter	Alternative 1
S-19	None	Potentially Eligible	Sparse lithic scatter	Alternative 1
S-20	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 1
S-21	None	Potentially Eligible	Sparse ceramic and lithic scatter	Alternative 2
S-22	6 towers, access roads	Potentially Eligible*	Temporary camp	Alternative 2
S-23	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-24	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-25	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-26	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 2
S-27	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-28	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 2
S-29	None	Potentially Eligible	Sparse lithic scatter	Alternative 2
S-30	None	Potentially Eligible	Ceramic and lithic scatter	Alternative 2
S-31	None	Potentially Eligible	Hearth feature with artifacts	Alternative 2
S-32	None	Potentially Eligible	Sparse ceramic and lithic scatter	Proposed Action & Alternative 3
S-33	None	Potentially Eligible	Sparse lithic scatter	Proposed Action & Alternative 3
S-34	None	Potentially Eligible	Sparse ceramic and lithic scatter	Proposed Action & Alternative 3
S-35	None	Potentially Eligible	Lithic scatter	Proposed Action & Alternative 3
S-36	None	Potentially Eligible	Sparse ceramic and lithic scatter	Proposed Action & Alternative 3
S-37	None	Potentially Eligible	Sparse ceramic and lithic scatter	Proposed Action & Alternative 3

Notes: *Although only potentially eligible, for CEQA purposes, they are deemed eligible and Applicant Mitigation Measures are applied to the sites with potentially significant impacts so the EIR/EA provides decision-makers and the public with information and analysis under a worst-case scenario so decision-makers can make an independent and informed decision.

Source: RECON Environmental, Inc. 2010

There is a potential for indirect effects to sites adjacent to the Proposed Action 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 11 sites (5726-S-11, S-12, S-13, S-14, S-15, S-32, S-33, S-34, S-35, S-36 and S-37) that are adjacent to the direct impacts; these sites may be indirectly impacted by the Proposed Action. However, Applicant Mitigation Measure CR-2 is incorporated as a project design feature in order to

ensure that project impacts do not rise to the level of significance. 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 will 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, Applicant Mitigation Measure CR-3 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

During construction and operational repair period of the Proposed Action, grading, excavation and trenching will be required. Applicant Mitigation Measure CR-4 will ensure that the potential project impacts to previously unknown human remains 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 1,128-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 sites located within the Alternative 1-Alternative Transmission Line Corridor APE. These sites 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 1-Alternative Transmission Line Corridor would result in significant impacts to three newly identified sites (5726-S-7, S-8, and SR-4) located within APE. However, Applicant Mitigation Measure CR-1 is incorporated as a project design feature 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 sites 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 10 sites (5726-S-11, S-12, S13, S-14, S-15, S-16, S-17, S-18, S-19, and SC-6) that are adjacent to the direct impacts; these sites may be indirectly impacted by Alternative 1-Alternative Transmission Line Corridor. However, Applicant Mitigation Measure CR-2 is incorporated as a project design feature in order to ensure that project impacts do not rise to the level of significance. 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 will 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, Applicant Mitigation Measure CR-3 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

During construction and operational repair period of the Alternative 1-Alternative Transmission Line Corridor, grading, excavation and trenching will be required. Applicant Mitigation Measure CR-4 will ensure that the potential project impacts to previously unknown human remains 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 sites located within the Alternative 2-Alternative Transmission Line Corridor APE. These sites 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 (5726-S-7, S-8, SR-4, and S-22) and two previously identified sites (IMP-10522 and -8668) located within APE. However, Applicant Mitigation Measure CR-1 is incorporated as a project design feature 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 sites adjacent to the impact areas within the Alternative 2-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 seven sites (5726-S-10, S-21, S-24, S-26, S-27, S-28, and S-9) that are adjacent to the direct impacts; these sites may be indirectly impacted by Alternative 2-Alternative Transmission Line Corridor. However, Applicant

Mitigation Measure CR-2 is incorporated as a project design feature in order 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 will 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, Applicant Mitigation Measure CR-3 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

During construction and operational repair period of the Alternative 2-Alternative Transmission Line Corridor, grading, excavation and trenching will be required. Applicant Mitigation Measure CR-4 will ensure that the potential project impacts to previously unknown human remains 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 8 acres to 122 acres. Thus, Alternative 3-Reduced Solar Energy Facility Site (totaling approximately 1,246 acres) can be summarized as follows:

- R-1—IV West Reduced Solar Energy Facility (1,122 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 sites located within the Alternative 3-Reduced Solar Energy Facility Site APE. These sites are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. With Applicant Mitigation Measures, Alternative 3-Reduced Solar Energy Facility Site would not result in impacts to any identified sites located within the APE. In addition, Applicant Mitigation Measure CR-1 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

Like the Proposed Action, there is a potential for indirect effects to sites 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 sites outside the construction area. The same 11

sites as for the Proposed Action (5726-S-11, S-12, S-13, S-14, S-15, S-32, S-33, S-34, S-35, S-36 and S-37), that are adjacent to the direct impacts, may be indirectly impacted by Alternative 3-Reduced Solar Energy Facility Site, without Applicant Mitigation Measures. However, Applicant Mitigation Measure CR-2 is incorporated as a project design feature in order 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 will 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. However, Applicant Mitigation Measure CR-3 is incorporated as a project design feature in order to ensure that the project impacts do not rise to the level of significance pursuant to CEQA.

During construction and operational repair period of the Alternative 3-Reduced Solar Energy Facility Site, grading, excavation and trenching will be required. Applicant Mitigation Measure CR-4 will ensure that the potential project impacts to previously unknown human remains 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 sites would be impacted under the Alternative 4-No Action/No Project Alternative, and no mitigation would be required.

4.7.2 Impact Summary

4.7.2.1 CEQA Impact Summary

A. Proposed Action and Alternatives 1 through 3

Table 3.7-1 and Table 4.7-1 summarizes all 44 sites found within the APE, of which nine were previously discovered and 35 were new. Of the 44 sites within the project area, six sites have been deemed as eligible for the NRHP for purposes of presenting a worst-case scenario for decision-makers. Of the remaining 38 sites, 37 sites are potentially eligible, and one site (IMP-7834–the Westside Main Canal) has been previously determined eligible for listing on the NRHP and CRHR, and pursuant to CEQA Guidelines § 15064.5(a)(1) and (2), there is at least a rebuttable presumption that this is a significant historic resource.

Therefore, for purposes of CEQA and allowing Imperial County to understand the project's impacts under a worst-case scenario, this EIR deems the 44 sites significant historical resources and Applicant Mitigation

Measures CR-1 through CR-4 are enforceable on the six sites with potentially significant impacts in order to assure that project impacts to this site do not rise to the level of significance.

The number of sites impacted, broken down by Alternative is shown in Table 4.7-2 below.

Table 4.7-2
CEQA Impact Comparison by Alternative

	Proposed Action	Alt 1	Alt 2	Alt 3	Alt 4
Potential for Significant Direct Impacts	3	3	6	0	0
Potential for Significant Indirect Impacts	11	10	7	11	0

Source: RECON Environmental, Inc., 2010.

4.7.3 NEPA/NHPA-Based Mitigation Measures

The BLM invited tribes into consultation on June 24, 2010. In addition, the BLM will initiate formal consultation with the SHPO and ACHP which may lead to the development of a Programmatic Agreement (PA), a Memorandum of Agreement (MOA), or other finding. At the time of circulation of the Draft EIR / EA, the consultation was still on going, but it is anticipated that a Memorandum of Agreement may be executed if consultation reveals a significant impact. Pursuant to Section 106 of the NHPA, determinations of significant impacts and/or mitigation measures cannot be made without consultation, and the Decision Record must include either the MOA or an executed PA if there is a significant impact. The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA. If there is a significant impact, then when the PA or MOA is fully executed the Proposed Action and Alternatives will have fulfilled the requirements of the NHPA and NEPA. The PA or MOA shall be executed prior to the BLM's approval of the Decision Record. The CEQA-based mitigation measures below disclose factual information that may be relevant to the BLM consultation and are adequate to justify the post-applicant mitigation measure significance conclusions for purposes of CEQA compliance, but they are not binding on the consultation process and the applicant accepts that the PA or MOA may impose more stringent requirements on the Proposed Action and Alternatives, and would indicate that acceptance by signing the agreement document.

4.7.4 Mitigation Measures

4.7.4.1 Applicable CEQA Guidelines Addressing Applicant Mitigation Measures/Project Design Features

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 Mitigation Measures follow 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 archeological 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 archeological 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 archeological 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 Archeology and Historic Preservation* contain archeological 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 archeological 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 Archeology 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- Applicant Mitigation Measures/Project Design Features

To the extent they are consistent with the terms of the potential PA or MOA being prepared for the Project, the Applicant 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. Additional mitigation measures developed pursuant to consultation process resulting in either a PA or MOA shall also be implemented and the PA or MOA shall be consistent 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*. In the event of a conflict, the PA or MOA shall prevail. As such, any certification of compliance with CEQA respects the on-going BLM consultation process while allowing the project approval process (if the Project is approved by Imperial County in its independent judgment) without jeopardizing one of the key project goals -- assisting the State of California and BLM in achieving their renewable energy targets by completing the impact analysis *of the project so that if approved, construction could be authorized by the year 2011.*

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:

CR-1 The sites which would be impacted during project construction are broken down by alternative in Section 4.7.1 above. For those sites which would be directly impacted due to the construction of access roads, towers, pull sites, or solar fields, a formal testing and evaluation program is required. The evaluation program for such sites shall document the presence or absence of subsurface deposits and the specific research potential for each site. In addition, the evaluation program shall 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*. Should these sites be determined 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* shall be required including:

a) Preservation in Place:

(1) Avoidance of the resource 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.

(2) Covering the archaeological sites with a layer of chemically stable soil before constructing facilities on site so long as covering can be done in a manner that is technically 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.

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.

CR-2 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, temporary fencing around their perimeters will be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project 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.

CR-3 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 will 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. Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.

CR-4 If human remains are discovered, work will 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 CR-1 through CR-4 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.7.4.4 Alternative 2-Alternative Transmission Line Corridor- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR-1 through CR-4 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.7.4.5 Alternative 3-Reduced Solar Energy Facility Site- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR-1 through CR-4 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.

4.7.4.6 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.

4.7.5 Impact After Mitigation

4.7.5.1 Impact After Applicant Mitigation Measures and Execution of Programmatic Agreement and Memorandum of Agreement

Known historical resources are impacted and were presumed to be significant for purposes of analyzing the project under the worst-case scenario, but the required implementation of applicant mitigation measures CR-1 and CR-2 assures that such project impacts and potential project impacts will 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 are buried and accidental discovery of either these historic resources of human remains can occur during 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 applicant mitigation measures CR-3 and CR-4 assures that such potential project impacts will not rise to the level of significance under the CEQA thresholds.

Therefore, with implementation of Applicant Mitigation Measures CR-1 through CR-4 as described above, no significant impacts to cultural resources would occur with respect 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 for purposes of CEQA. These fully enforceable Applicant Mitigation Measures provide sufficient mitigation independent of any draft Programmatic Agreement or MOA developed through the BLM's current consultation process, but to the extent a final PA or MOA is needed and executed, the Project shall be subject to any conflicting terms in the PA or MOA, thereby mitigating the Project impacts from below a level of significance to "further" below a level of significance under CEQA. The applicant/permitee consents to be bound by the PA or MOA even though CEQA would not otherwise require mitigation for an impact that is already below a level of significance.

4.7.5.2 NEPA Impact After Programmatic Agreement or Memorandum of Agreement

For purposes of compliance with the NEPA and NHPA, whose regulations (36 CFR Part 800.14(b)) contemplate that complex projects may not be able to fully determine its effects on historic properties prior to local approval of the project, the BLM in consultation with the ACHP, State Historic Preservation Officer (SHPO), and interested Native American tribes regarding potential impacts to historic properties and the potential development of a Programmatic Agreement or MOA. If the full effects are determined to be adverse, an MOA will be developed. In either case, the MOA or final Programmatic Agreement will be executed prior to and included in the BLM's Decision Record thus providing compliance with NEPA and NHPA.

This page intentionally left blank.

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/NEPA Indicators

For the purpose of this EIR/EA, a significant Noise 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 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?*

4.8.1 Environmental Consequences

4.8.1.1 Proposed Action

A. Short-Term Construction Noise

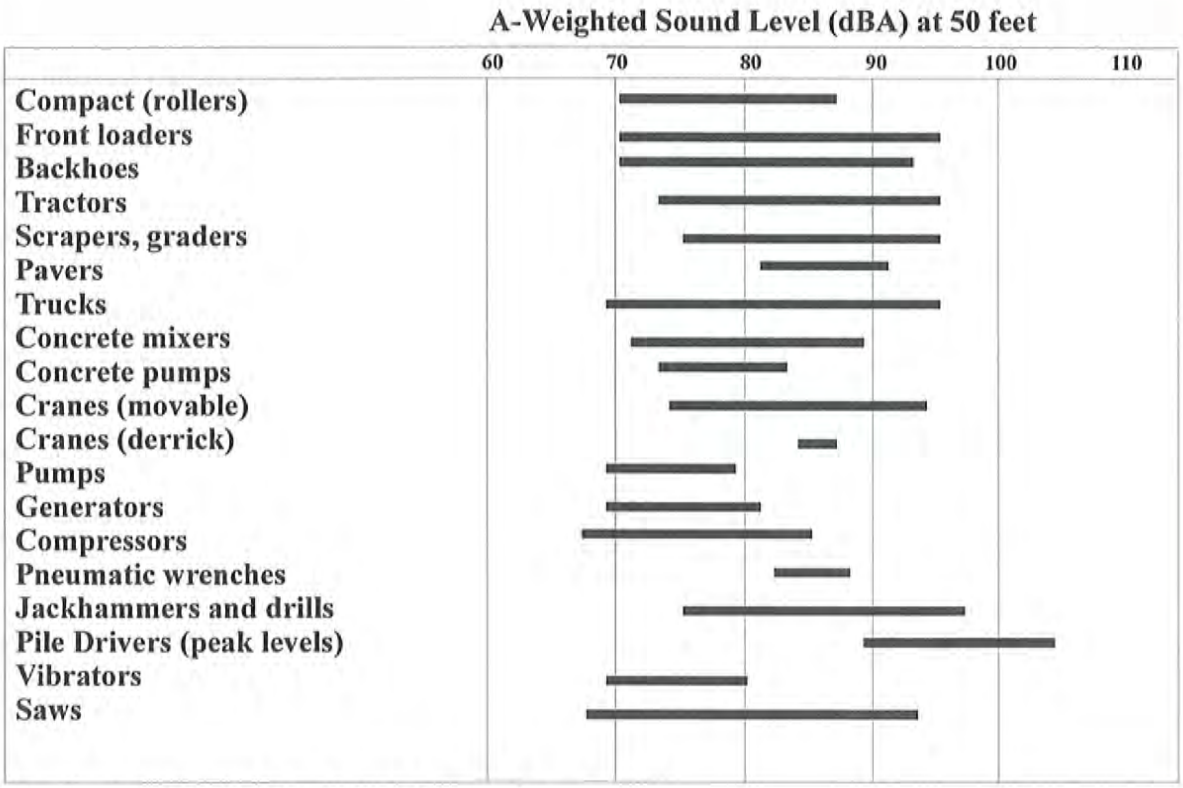
Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor).

During the construction phases of the project, short-term noise will be generated associated with the operation of various 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 General Plan identifies sensitive receptors as areas of habitation and may also be non-human species (i.e., sensitive bird species). 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. However, noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, would not be deemed impactive or 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 close 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, noise generated during construction activities is not considered significant under CEQA.



Source: "Handbook of Noise Control," by Cyril Harris, 1979.

SOURCE: ISE, Inc., 2008

8/24/10

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

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.

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. 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 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.

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.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

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.

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.

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.

As shown in Table 4.8-4, no significant 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.

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. Therefore, the Proposed Action's onsite operation noise is not considered a significant impact under CEQA.

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 required for the Proposed Action (four full-time employees) during operations. As such, the Proposed Action is not expected to result in a significant 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 significant 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.

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.

D. Noise from 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. Short-Term 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).

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 various 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, would not be deemed impactive or 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, 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.

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.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

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. Therefore, 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 required for the Proposed Action (four full-time employees) during operations. As such, the Alternative 1-Alternative Transmission Line Corridor is not expected to result in a significant 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 significant 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 from 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. Short-Term 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).*

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 various 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, would not be deemed impactive or 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, 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.

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.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

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 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. Therefore, 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 required for the Proposed Action (four full-time employees) during operations. As such, the Alternative 2-Alternative Transmission Line Corridor is not expected to result in a significant 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 significant 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 from 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. Short-Term 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).

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 various 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, would not be deemed impactive or 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, 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.

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.*

Indicator 4: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

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. Therefore, 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 required for the Proposed Action (four full-time employees) during operations. As such, the Alternative 3-Reduced Solar Energy Facility Site is not expected to result in a significant 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 significant 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 from 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.

4.8.2 Mitigation Measures

No mitigation measure is proposed, as no significant noise impact under CEQA has been identified for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, Alternative 3-Reduced Solar Energy Facility Site or the Alternative 4-No Action/No Project Alternative.

4.8.3 Impact After Mitigation

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 the Alternative 4-No Action/No Project Alternative will not result in significant noise impacts under CEQA. Thus, no mitigation is required.

This page intentionally left blank.

4.9 Agricultural Resources

CEQA Significance Criteria/NEPA Indicators

For the purposes of this EIR/EA, a significant Agricultural Resources impact would occur if implementation of the Proposed Action would:

1. *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use;*
2. *Conflict with existing zoning for agricultural use, or a Williamson Act contract; or,*
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 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.

4.9.1 Environmental Consequences

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 ultimate 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.

No portion of the Proposed Action located within BLM lands is utilized for agriculture and no agricultural impact under CEQA as a result of the transmission line component of the Proposed Action would result.

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 measureable 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 would reduce the impact to a level less than significant under CEQA.

TABLE 4.9-1
LESA 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.

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.

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.

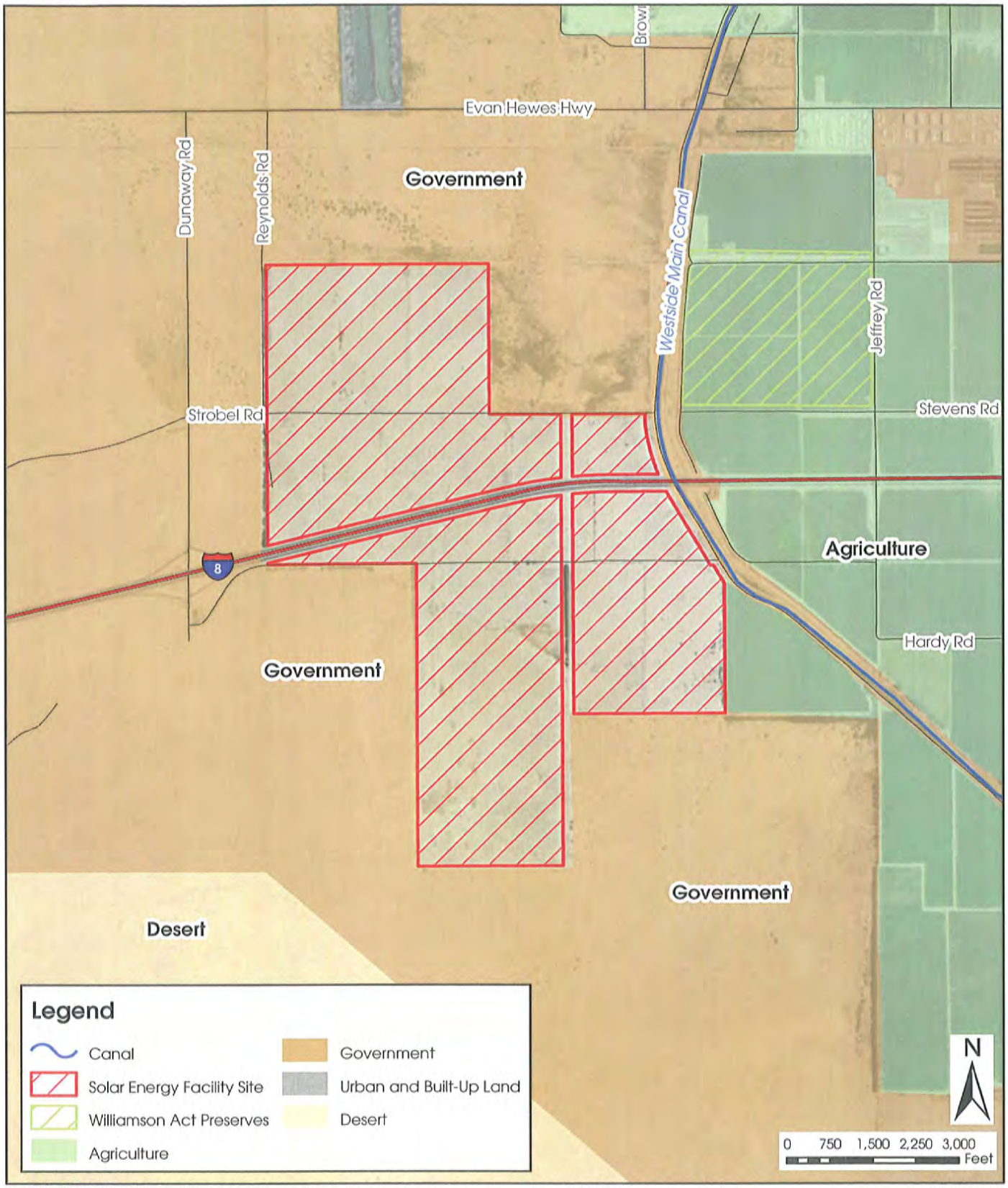
Additionally, the Proposed Action is not a residential or commercial urban area that would create incompatibility issues with adjacent agricultural operations, or develop infrastructure that would attract or encourage development of adjacent farmlands. The County of Imperial General Plan designates the 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 not consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan and 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.



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

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.	Inconsistent: The project would convert land designated as Farmland of Local Importance to non-agricultural uses and mitigation is required.
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 convert Important Farmland to non-agricultural uses and mitigation is required; 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, with the issuance of a conditional use permit, the Proposed Action would be an allowable use within the agricultural zoning of the project site 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 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 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 further 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 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.
Objective 2.4- Discourage the parcelization of large holdings.	Consistent: See response to Objective 2.3 above.

TABLE 4.9-2
Summary of Relevant Agricultural Goals and Objectives

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
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

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.

<u>County Policy:</u> 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. Also, the project is not expected to significantly impact the ability to economically and conveniently farm adjacent agricultural land.

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 this 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 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. Agriculture is prohibited by the CDCA. 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 not consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan and mitigation is 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 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. Agriculture is prohibited by the CDCA. 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 not consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan and mitigation is 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 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 not consistent with certain Agricultural Element Goals and Objectives of the County of Imperial General Plan and mitigation is 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.

4.9.2 Mitigation Measures

4.9.2.1 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 1 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.

4.9.2.2 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.

4.9.2.3 Alternative 2-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.

4.9.2.4 Alternative 3-Reduced Solar Energy Facility

Mitigation Measure AR1 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.

4.9.2.5 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 Impact After Mitigation

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, and conflict with General Plan goals, objectives, and policies. Implementation of Mitigation Measure AR1 will reduce the impact to agricultural resources to a level 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.

4.10 Health, Safety and Hazardous Materials/Fire and Fuels Management

Information contained in this section is summarized from 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 Criteria/NEPA Indicators

For the purpose of this EIR/EA, a significant Health, Safety and Hazardous Materials/Fire and Fuels Management 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: *Be included on a list of hazardous materials sites;*

Indicator 2: *Release hazardous materials into the environment;*

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;*

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 a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

4.10.1 Environmental Consequences

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

Potential hazardous materials currently on or near the solar facility site include pesticides and herbicides, scattered trash and debris, and fill material. However, the Proposed Action 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.

Indicator 2: Release hazardous materials into the environment.

Pesticides/Herbicides

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. Therefore, the potential presence of low concentrations of agricultural chemicals on the solar energy facility portion of the project site is considered a *de minimis*[1] condition. In addition, the Proposed Action is the construction and operation of a solar facility and would not contain a residential or commercial component that would expose people to potential pesticides/herbicides. A less than significant impact under CEQA is identified for this issue and no further action is required.

Trash and Debris

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 would reduce the 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 is less than the maximum concentration normally found in soil 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.

[1] *De minimis condition.* An environmental condition that does not generally present a material risk of harm to the public health or the environment that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

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.

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 American Society of Testing and Materials (ASTM) standard search distances of the project site. All 41 of the orphan sites appear to be 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.

Transport, Use, Or Disposal of Hazardous Materials and Potential Accidents

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 Proposed Action would not 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.

Construction Phase

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. 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.

Operation and Maintenance Activities

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 recycle or disposal will be transported by a licensed and permitted hazardous waste hauler. 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 is considered a significant impact under CEQA. Implementation of Mitigation Measure HM2 will reduce the impact of herbicide use on the solar facility 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.

Subsequent to the construction of the transmission line corridor, no maintenance is required regarding weed control. As such, no significant impact under CEQA from the application of herbicides would occur within BLM lands.

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 be in compliance with the Department of Environmental Health Services. 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.

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 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 the Proposed Action will not result in a significant 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 a significant 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. This 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. 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.

In addition, 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. With the fire protection measures discussed above, no 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 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 on human health is not considered significant due to its proposed location within a designated utility corridor and the extremely rural agricultural setting of the surrounding area. The proposed transmission line corridor would be located within Utility Corridor "N" of the BLM's California Desert Conservation Plan. As depicted in Figure 2-17, the following are three existing transmission lines located within Utility Corridor "N": 1) Sempra; 2) Intergen; and, 3) SDG&E. 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 an extremely 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

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.

Indicator 2: Release hazardous materials into the environment.

Similar to the Proposed Action, the potential presence of low concentrations of agricultural chemicals on the project site is considered a *de minimis* condition. In addition, the Alternative 1-Alternative Transmission Line Corridor is the construction and operation of a solar facility and would not contain a residential or commercial component that would expose people to potential pesticides/herbicides. Therefore, a less than significant impact under CEQA is identified for this issue 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.

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 would be required in order to reduce this impact to a level less than significant under CEQA.

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 41 orphan sites identified in the EDR appear to be 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.

Transport, Use, Or Disposal of Hazardous Materials and Potential Accidents

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 impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials.

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 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 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 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 is considered a significant impact under CEQA. Implementation of Mitigation Measure HM2 will reduce this impact to a level less than significant under CEQA. Subsequent to the construction of the transmission line corridor, no maintenance is required regarding weed control. As such, no significant impact under CEQA from the application of herbicides will occur within BLM lands.

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.

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 a significant 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 a significant 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. In addition, Alternative 1-Alternative Transmission Line Corridor will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. With the fire protection measures discussed above, no significant fire hazard impact under CEQA would occur with implementation of Alternative 1-Alternative Transmission Line Corridor.

Furthermore, no portion of 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 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 on human health is not considered significant due to its proposed location within a designated utility corridor and the extremely rural agricultural setting of the surrounding area. The proposed transmission line corridor would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line is 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

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.

Indicator 2: Release hazardous materials into the environment.

Similar to the Proposed Action, the potential presence of low concentrations of agricultural chemicals on the project site is considered a *de minimis* condition. In addition, the Alternative 2-Alternative Transmission Line Corridor is the construction and operation of a solar facility and would not contain a residential or commercial component that would expose people to potential pesticides/herbicides. Therefore, a less than significant impact under CEQA is identified for this issue 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.

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 would be required in order to reduce this impact to a level less than significant under CEQA.

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 41 orphan sites identified in the EDR appear to be 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.

Transport, Use, Or Disposal of Hazardous Materials and Potential Accidents

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 is anticipated.

Indicator 4: Routinely transport, use or dispose of hazardous materials.

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 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 is considered a significant impact under CEQA. Implementation of Mitigation Measure HM2 will reduce this impact to a level less than significant under CEQA. Subsequent to the construction of the transmission line corridor, no maintenance is required regarding weed control. As such, no significant impact from the application of herbicides will occur within BLM lands.

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.

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 a significant 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 a significant 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. In addition, Alternative 2-Alternative Transmission Line Corridor will comply with additional

requirements of the ICFD through the development and submission of a Fire Protection Plan. With the fire protection measures discussed above, no significant fire hazard impact under CEQA would occur with implementation of Alternative 2-Alternative Transmission Line Corridor.

Furthermore, no portion of 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 on human health is not considered significant due to its proposed location within a designated utility corridor and the extremely rural agricultural setting of the surrounding area. The proposed transmission line corridor would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line is 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

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.

Indicator 2: Release hazardous materials into the environment.

Similar to the Proposed Action, the potential presence of low concentrations of agricultural chemicals on the project site is considered a *de minimis* condition. In addition, the Alternative 3-Reduced Solar Energy Facility Site is the construction and operation of a solar facility and would not contain a residential or commercial component that would expose people to potential pesticides/herbicides. Therefore, a less than significant impact under CEQA is identified for this issue 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.

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 would be required in order to reduce this impact to a level less than significant under CEQA.

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 41 orphan sites identified in the EDR appear to be 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.

Transport, Use, Or Disposal of Hazardous Materials and Potential Accidents

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 is anticipated.

Indicator 4: Routinely transport, use or dispose of hazardous materials.

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 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 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 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 is considered a significant impact under CEQA. Implementation of Mitigation Measure HM2 will reduce this impact to a level less than significant under CEQA. Subsequent to the construction of the transmission line corridor, no maintenance is required regarding weed control. As such, no significant impact under CEQA from application of herbicides will occur within BLM lands.

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.

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 significant 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 a significant 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. In addition, 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. With the fire protection measures discussed above, no significant fire hazard impact under CEQA would occur with implementation of Alternative 3-Reduced Solar Energy Facility Site.

Furthermore, no portion of 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 on human health is not considered significant due to its proposed location within a designated utility corridor and the extremely rural agricultural setting of the surrounding area. The proposed transmission line corridor would be located within a designated utility corridor. As such, no residential uses are allowed within this corridor. Furthermore, the proposed transmission line is 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.

4.10.2 Mitigation Measures

4.10.2.1 Proposed Action

HM1 Prior to the issuance of a grading permit, all trash and debris within the project site 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 Planning and Development Services Department before issuance of a 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 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.

4.10.2.2 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.

4.10.2.3 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.

4.10.2.4 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.

4.10.2.5 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 Impact After Mitigation

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 health, safety and hazardous materials. Implementation of Mitigation Measures HM1 and HM2 will reduce these impacts to a level of less than significant.

The Alternative 4-No Action/No Project Alternative will not result in impacts on health, safety and hazardous materials/fire and fuels management. Therefore, no mitigation is required.

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/NEPA Indicators

For purposes of this EIR/EA, a significant Hydrology and Water 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: *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).*

4.11.1 Environmental Consequences

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, as this portion of the project site will not result in significant hydrology and water quality impacts 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.

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.*

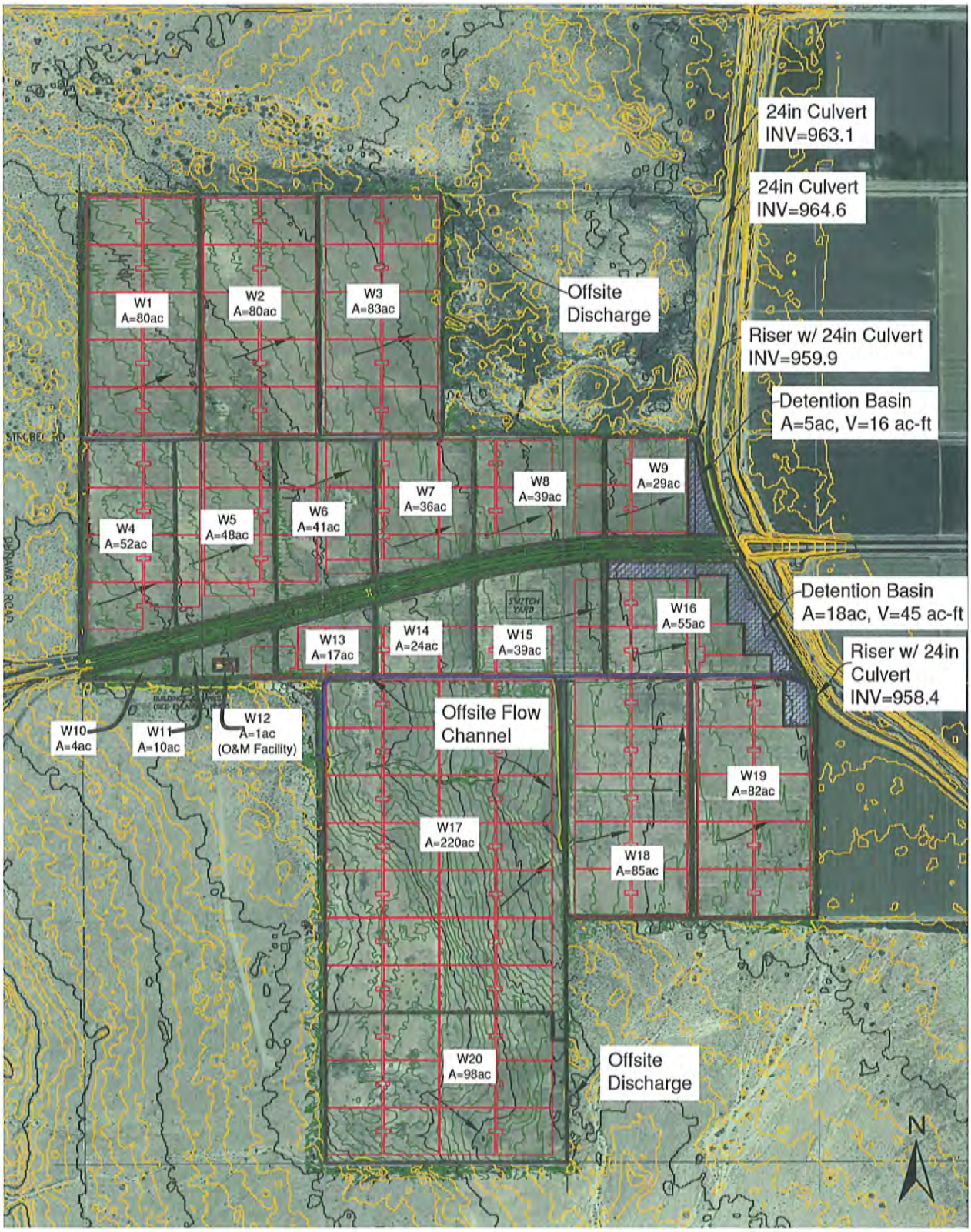
Indicator 3: *Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

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 to contain the runoff from the operations and maintenance facility. The retention basin 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 3 major subareas based on common discharge points to the Dixie Drain. The 3 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.



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

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 11\Figure 4.11-1 Hydrograph Analysis.ai

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.

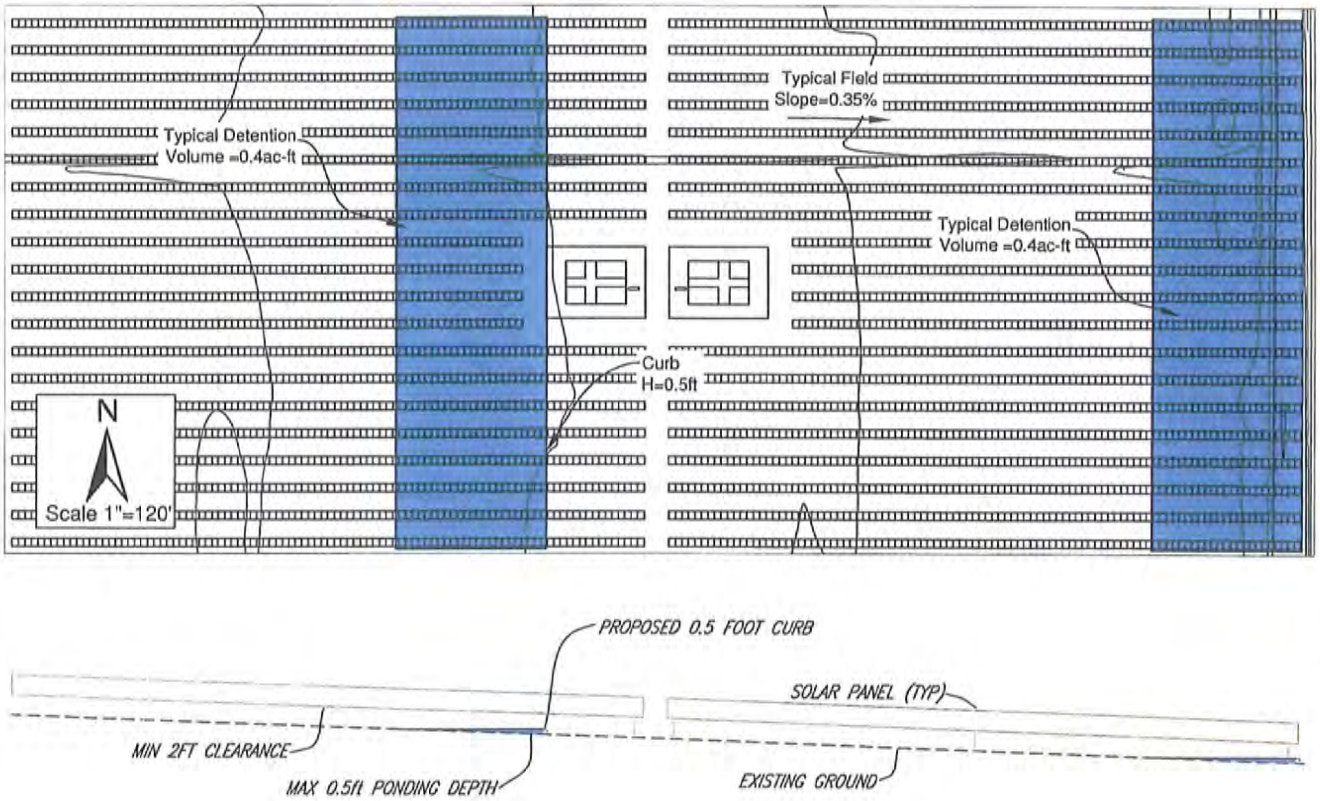
Based on the hydrograph results, the proposed improvements at the Proposed Action solar energy facility site will not result in significant increases in peak flow rates and volumes. Increases on the Proposed Action project site are a result of the increase in imperviousness from the proposed transformer/inverter pads and operations facility. The combined impact of these facilities will increase the site imperviousness from 0% to 0.5%.

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%, 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. Since 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.



SOURCE: Tory R. Walker Engineering, Inc., 2010

10/20/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

Under-Panel Detention Concept

FIGURE

4.11-2

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 11\Figure 4.11-2 Under-Panel Detention Concept.ai

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.

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.*

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% 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 1% 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 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 this 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, 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 California 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.

The solar energy facility portion of the Proposed Action will utilize Site Design, Source Control, and Treatment Control BMPs on the project site. These BMPs are described below.

Site Design Strategies and BMPs

The following are three strategies for managing runoff from buildings and paving:

- Optimize the Size 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. 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. Furthermore, the solar energy facility portion of the Proposed Action will not have an adverse impact associated with water infiltration and groundwater levels due to a minor increase in imperviousness. Therefore, this 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 and Proposed Action Transmission Line Corridor). Approximately 0.5 acres of ACOE 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 B7, this impact will be reduced to a level less than significant. 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 to contain the runoff from the operations and maintenance facility. The retention basin 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

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. 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% to 0.5%.

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. Since 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% 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 1% 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 this 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, 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 California 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.

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.

Site Design Strategies and BMPs

The following are three strategies for managing runoff from buildings and paving:

- Optimize the Size 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. Furthermore, the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor will not have an adverse impact associated with water infiltration and groundwater levels due to a minor increase in imperviousness. Therefore, this 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 ACOE 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 B7, this impact will be reduced to a level less than significant under CEQA. 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 to contain the runoff from the operations and maintenance facility. The retention basin 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

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. 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% to 0.5%.

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. Since 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% 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 1% 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 this 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, 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 California 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.

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.

Site Design Strategies and BMPs

The following are three strategies for managing runoff from buildings and paving:

- Optimize the Size 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. Furthermore, the solar energy facility portion of the Alternative 2-Alternative Transmission Line Corridor will not have an adverse impact associated with water infiltration and groundwater levels due to a minor increase in imperviousness. Therefore, this 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 ACOE 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 B12, this impact will be reduced to a level less than significant under CEQA. 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 to contain the runoff from the operations and maintenance facility. The retention basin 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

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. 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% to 0.5%.

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. Since 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% 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 1% 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 this 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, 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 California 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.

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.

Site Design Strategies and BMPs

The following are three strategies for managing runoff from buildings and paving:

- Optimize the Size 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. Furthermore, the solar energy facility portion of the Alternative 3-Reduced Solar Energy Facility Site will not have an adverse impact associated with water infiltration and groundwater levels due to a very minor increase in imperviousness. Therefore, this 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 ACOE 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 B7, this impact will be reduced to a level less than significant under CEQA. 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.

4.11.2 Mitigation Measures

4.11.2.1 Proposed Action

HWQ1 Prior to the recordation of the first final map and/or issuance of the first grading permit, the developer shall submit and receive a NPDES permit from the RWQCB in accordance with a SWPPP approved by the County of Imperial. The SWPPP shall include source control and treatment control BMPs. 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.

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.
- 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.

4.11.2.2 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.

4.11.2.3 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.

4.11.2.4 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.

4.11.2.5 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 Impact After Mitigation

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. 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 significant hydrology and water quality impacts under CEQA. Therefore, no mitigation is required.

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); *Imperial Solar Energy West Spring 2010 Rare Plant Survey Report* prepared by RECON Environmental, Inc (July 23, 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, Appendix I-2, Appendix I-3, and Appendix I-4 of this EIR/EA.

CEQA Significance Criteria/NEPA Indicators

For purposes of this EIR/EA, a significant Biological Resources 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: *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.*

4.12.1 Environmental Consequences

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 the solar energy facility (R-1) and transmission corridor portions (IVW-2 and IVW-2B).

A. Impact to Vegetation Communities

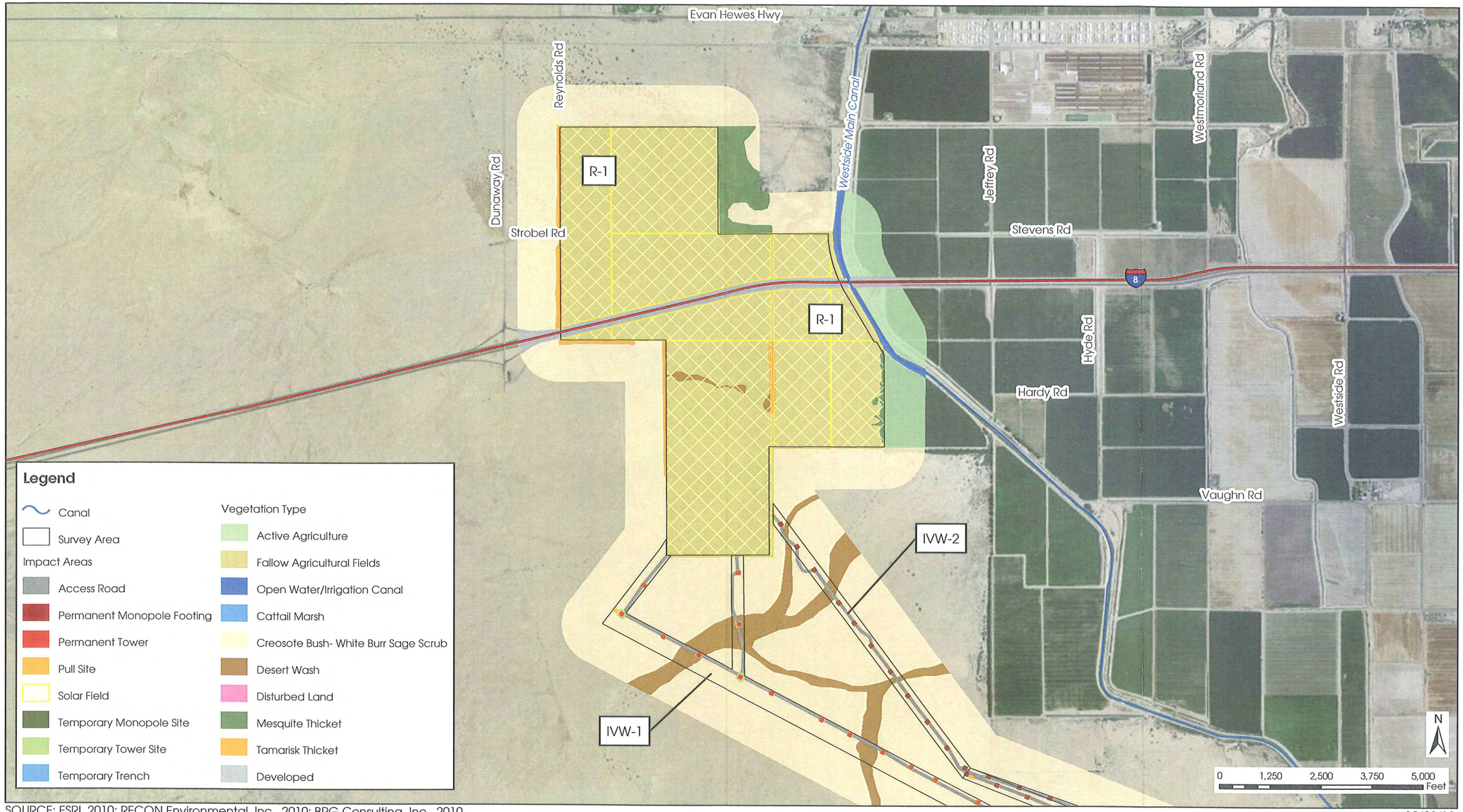
Indicator 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

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.

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 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.



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

10/20/10

BRG CONSULTING, INC.

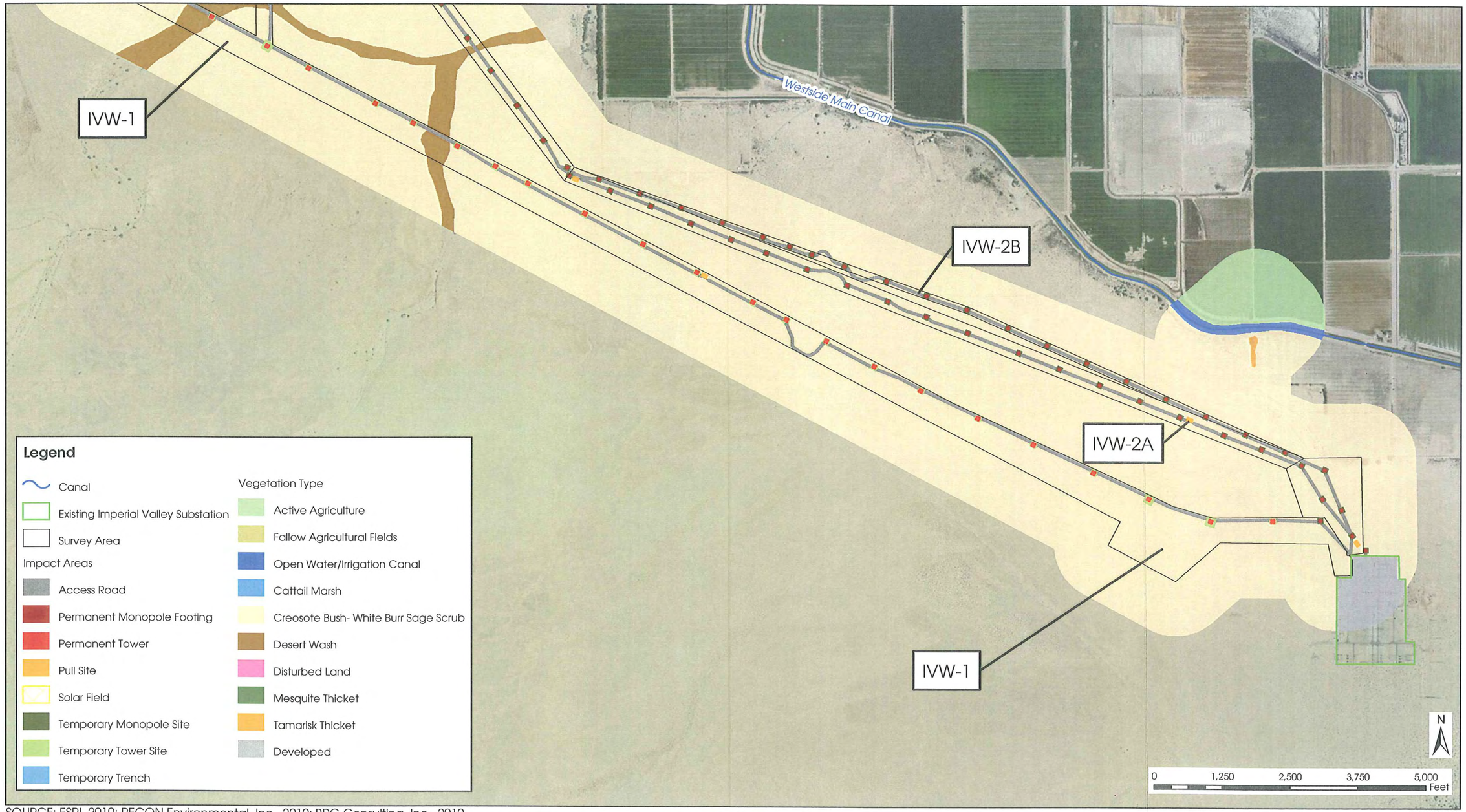
Imperial Solar Energy Center West

Impact to Vegetation Communities

FIGURE 4.12-1a

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 12\Figure 4.12-1a Impact to Vegetation Communities.mxd

(11x17) back



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 4.12-1b

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 12\Figure 4.12-1b Impact to Vegetation Communities.mxd

(11x17) back

Solar Energy Facility Vegetation Impact

Implementation 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. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash and mesquite thicket is considered a significant impact under CEQA. Implementation of Mitigation Measure B1, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of abandoned agricultural land would be impacted with the implementation of the proposed solar energy facility. However, as part of the Proposed Action, habitat restoration will be conducted on the solar field. As the proposed project is expected to improve the habitat quality of the abandoned agricultural fields, impacts to the abandoned agricultural fields would be less than significant under CEQA and no mitigation would be required.

Proposed Action Transmission Line Corridor Vegetation Impact

The Proposed Action Transmission Line Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash. 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 are considered significant under CEQA. Implementation of Mitigation Measure B1, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

B. 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 49 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

Construction Impact

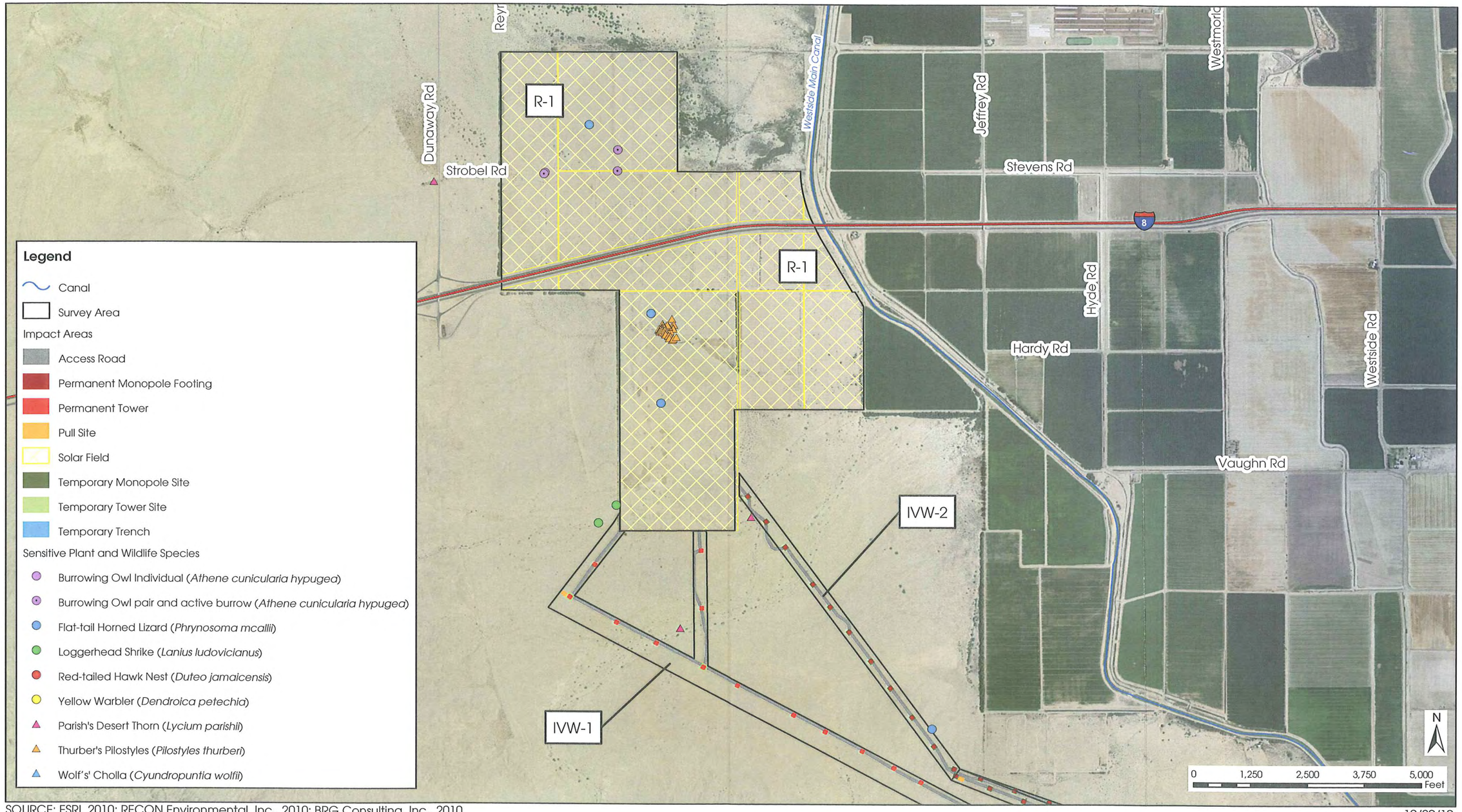
Direct impacts to FTHL may occur during construction of the proposed Solar Energy Facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts would be considered significant under CEQA and mitigation would be required.

The Proposed Action Transmisison Line Corridor 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 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 are the minimum required to construct the project.

- The proposed ISEC West Solar Energy Facility is located outside of the Yuha MA, within abandoned 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 resources.
- 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 abandoned agricultural fields of the proposed ISEC West Solar Energy Facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the abandoned 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



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

10/20/10

BRG CONSULTING, INC.

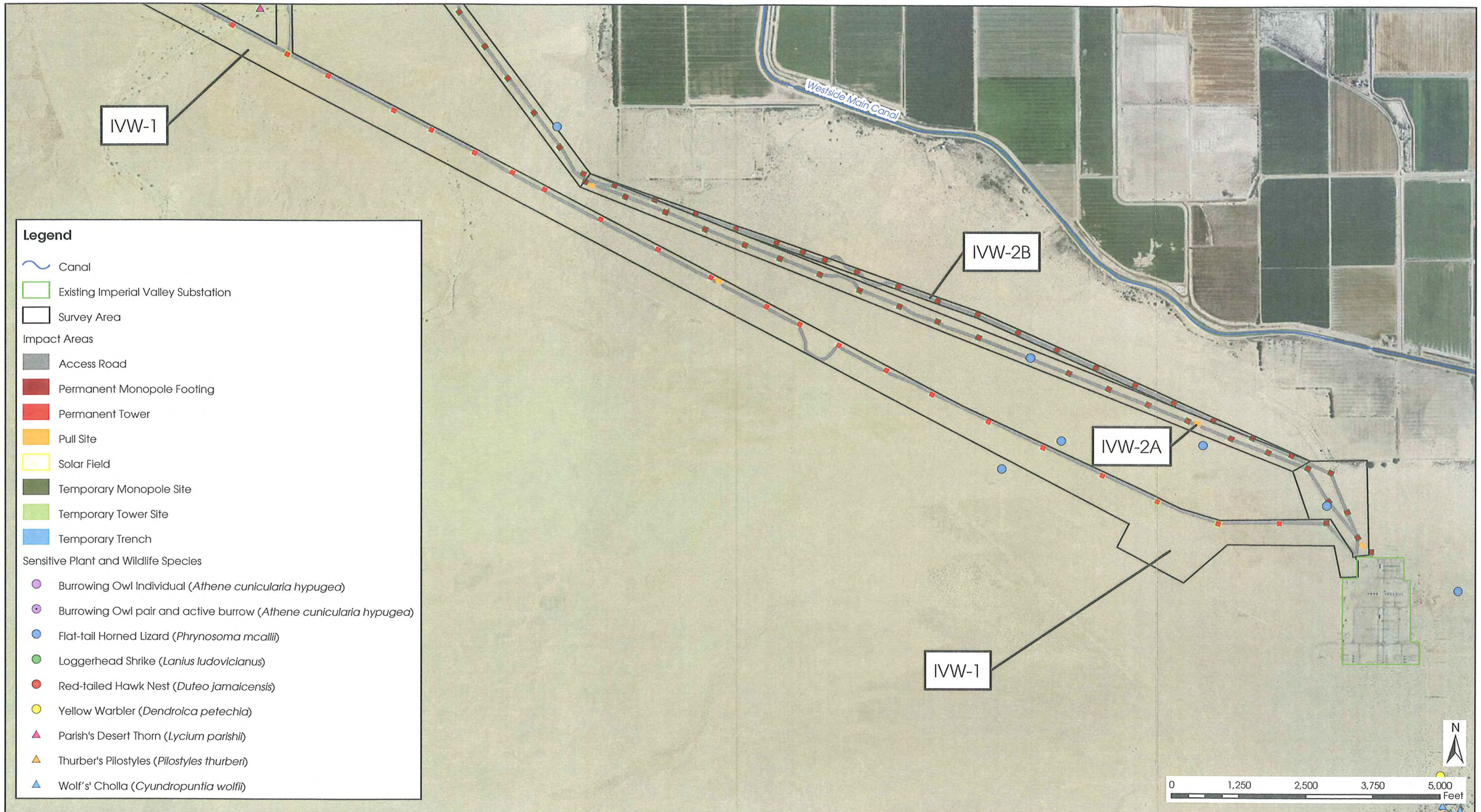
Imperial Solar Energy Center West

Impacts to Special Status Species

FIGURE 4.12-2a

F:\projects\1008 Imperial Solar West\2nd Screencheck EIR_EA\Chapter 4\Section 12\Figure 4.12-2a Impacts to Special Status Species.mxd

Figure 4.12-2a: Impacts to Special Status Species
11x17 Color (back)



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

10/20/10

BRG CONSULTING, INC.

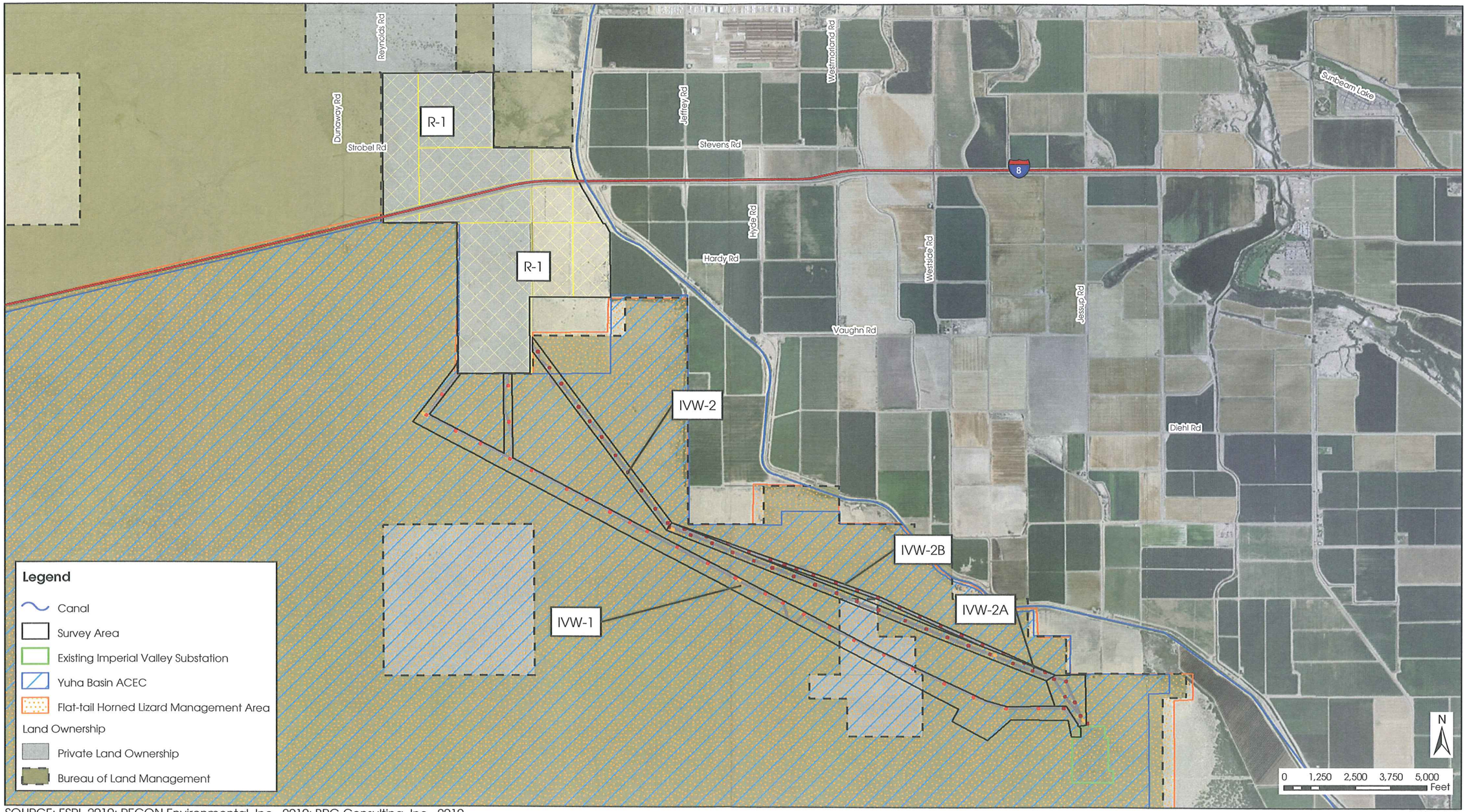
Imperial Solar Energy Center West

Impacts to Special Status Species

FIGURE 4.12-2b

C:\Documents and Settings\Totran\Desktop\Figure 4.12-2b Impacts to Special Status Species.mxd

Figure 4.12-2b: Impacts to Special Status Species
11x17 Color (back)



SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

10/20/10

BRG CONSULTING, INC.

Imperial Solar Energy Center West

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)

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 Abandoned 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.

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 abandoned agricultural fields, impacts to the abandoned 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 under CEQA to FTHL due to construction of the proposed project. Implementation of Mitigation Measure B2 will reduce the construction impact to FTHL to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted along the transmission line and within the ISEC West 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 of 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; using a high powered sprayer or hose for the washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the Solar Energy Facility, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. These potential impacts would be considered significant under CEQA. Implementation of Mitigation Measures B2 and B3 will reduce the direct O&M impact to a level less than significant under CEQA.

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. Implementation of Mitigation Measure B3, specifically the *Raven Control Plan,* shall be implemented to reduce 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 miles (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- 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 miles) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the abandoned 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. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows. However, with implementation of Mitigation Measure B4, this impact would be reduced to a level less than significant under CEQA.

The creosote bush- white burr sage scrub vegetation along the Proposed Action Transmission Line Corridor and the abandoned 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 Corridor.

The abandoned 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.

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 significant impact under CEQA. Implementation of Mitigation Measure B3, specifically speed limits 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. 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. No significant impact under CEQA due to noise is expected to occur to this species.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey area provide nesting opportunities for raptors. In order to prevent direct and indirect noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Proposed Action site shall take place outside the raptors' breeding season of February 1 to July 15. If construction occurs during the breeding season, a significant impact under CEQA is anticipated to occur to active raptor nests. Implementation of Mitigation Measure B5 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; 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, and 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 Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the 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.

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. Implementation of Mitigation Measure B6 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 will 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. 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.

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 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 Imperial Irrigation District (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 Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010d) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the MBTA.

C. 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, 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 CEQA. 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 will reduce this impact 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 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 communities. Implementation of Mitigation Measure B3, specifically the *Weed Abatement Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA.

D. 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 ACOE. 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 4.12-3 shows the proposed project impacts to ACOE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the ISEC-West solar energy facility was identified during the preliminary jurisdictional delineation as potentially exempt under the jurisdiction of ACOE. If this feature is determined not to be exempt, it will be avoided during construction of the proposed Solar Energy Facility and no mitigation will be required. The irrigation channels within the abandoned agricultural fields are man-made structures and are also being reviewed by the ACOE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACOE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action Transmission Line Corridor. Implementation of Mitigation Measure B7 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. 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 significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

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			
ACOE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACOE-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*
ACOE TOTAL	-	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

E. 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.

F. 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 lines are 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.

4.12.1.2 Alternative 1-Alternative Transmission Line Corridor

The Alternative 1-Alternative Transmission Line Corridor includes the solar energy facility (R-1) and transmission corridor portions (IVW-2 and IVW-2A).

A. Impact to Vegetation Communities

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.*

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.

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 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.

Solar Energy Facility Vegetation Impact

Implementation 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. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash and mesquite thicket is considered a significant impact under CEQA. Implementation of Mitigation Measure B8, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of abandoned 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. As the proposed project is expected to improve the habitat quality of the abandoned agricultural fields, impacts to the abandoned agricultural fields would be less than significant under CEQA and no mitigation would be required.

Alternative 1-Alternative Transmission Line Corridor Vegetation Impact

The Alternative 1-Alternative Transmission Line Corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash, 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 are considered significant under CEQA. Implementation of Mitigation Measure B8, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

B. 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 49 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

Construction Impact

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. These impacts would be considered significant under CEQA and mitigation would be required.

The Alternative 1-Alternative Transmission Line Corridor 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 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 are the minimum required to construct the project.

- The proposed ISEC West Solar Energy Facility is located outside of the Yuha MA, within abandoned 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 resources.
- 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-Alternative Transmission Line Corridor 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 abandoned agricultural fields of the proposed ISEC West Solar Energy Facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the abandoned 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 abandoned agricultural fields, impacts to the abandoned 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	6.6
Monopole footings		<0.1	<0.1
Lattice tower footings		-	
Inside Sub-total		*6.8*	*6.6*
Private Land Outside FTHL MA			
Solar Energy Facility Abandoned 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 under CEQA to FTHL due to construction of the Alternative 1-Alternative Transmission Line Corridor. Implementation of Mitigation Measure B2 and B9 will reduce the construction impact to FTHL to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted along the transmission line and within the ISEC West 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 of 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; using a high powered sprayer or hose for the washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the Solar Energy Facility, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. These potential impacts would be considered significant under CEQA. Implementation of Mitigation Measures B2 through B3 and B9 will reduce the direct O&M impact to a level less than significant under CEQA.

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. Implementation of Mitigation Measure B3, specifically the *Raven Control Plan,* shall be implemented to reduce 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 miles (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- 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 miles) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the abandoned 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. However, with implementation of Mitigation Measure B4, this impact would be reduced to a level less than significant under CEQA.

The creosote bush- white burr sage scrub vegetation along the proposed transmission line and the abandoned 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-ALternative Transmission Line Corridor.

The abandoned 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.

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 significant impact under CEQA. Implementation of Mitigation Measure B3, specifically speed limits 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. 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. No significant impact under CEQA due to noise is expected to occur to this species.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. In order to prevent direct and indirect noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 1-Alternative Transmission Line Corridor site shall take place outside the raptors' breeding season of February 1 to July 15. If construction occurs during the breeding season, a significant impact under CEQA is anticipated to occur to active raptor nests. Implementation of Mitigation Measure B5 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 Alternative 1-Alternative Transmission Line Corridor 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 Alternative 1-Alternative Transmission Line Corridor, and 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 Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the 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.

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. Implementation of Mitigation Measure B6 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 will 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. 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.

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-Alternative Transmission Line Corridor, 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 Imperial Irrigation District (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 Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010d) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

C. 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, 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 CEQA. 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 B8 will reduce this impact 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 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 communities. Implementation of Mitigation Measure B3, specifically the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA.

D. 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 ACOE. 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 ACOE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the ISEC-West solar energy facility was identified during the preliminary jurisdictional delineation as potentially exempt under the jurisdiction of ACOE. If this feature is determined not to be exempt, it will be avoided during construction of the proposed Solar Energy Facility and no mitigation will be required. The irrigation channels within the abandoned agricultural fields are man-made structures and are also being reviewed by the ACOE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACOE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the transmission line corridor. Implementation of Mitigation Measure B7 will reduce this impact to a level less than significant.

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			
ACOE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACOE-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*
ACOE TOTAL	-	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

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. 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 significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

E. 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.

F. 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 1-Alternative Transmission Line Corridor transmission lines are 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.

4.12.1.3 Alternative 2-Alternative Transmission Line Corridor

The Alternative 2-Alternative Transmission Line Corridor includes the solar energy facility (R-1) and transmission corridor (IVS-1).

A. Impact to Vegetation Communities

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.

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 mitigation ratio and acres required for permanent and temporary impacts to vegetation communities.

Solar Energy Facility Vegetation Impact

Implementation 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. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash and mesquite thicket is considered a significant impact under CEQA. Implementation of Mitigation Measure B10, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

Approximately 1,051.9 acres of abandoned 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 will be conducted on the solar field. As the proposed project is expected to improve the habitat quality of the abandoned agricultural fields, impacts to the abandoned agricultural fields would be less than significant under CEQA and no mitigation would be required.

Alternative 2-Alternative Transmission Line Corridor 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. 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 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 are considered significant under CEQA. Implementation of Mitigation Measure B10, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

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 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.

B. 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 49 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

Construction Impact

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. These impacts would be considered significant under CEQA and mitigation would be required.

The Alternative 2 transmission line corridor 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 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 are the minimum required to construct the project.

- The proposed ISEC West Solar Energy Facility is located outside of the Yuha MA, within abandoned 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 resources.
- 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 abandoned agricultural fields of the proposed ISEC West Solar Energy Facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the abandoned 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 abandoned agricultural fields, impacts to the abandoned 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 under CEQA to FTHL due to construction of the proposed project. Implementation of Mitigation Measure B2 and B11 will reduce the construction impact to FTHL to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted along the transmission line and within the ISEC West 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 of 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; using a high powered sprayer or hose for the washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the Solar Energy Facility, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. These potential impacts would be considered significant under CEQA. Implementation of Mitigation Measures B2 through B3 and B11 will reduce the direct O&M impact to a level less than significant under CEQA.

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. Implementation of Mitigation Measure B3, specifically the *Raven Control Plan,* shall be implemented to reduce 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 miles (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- 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 miles) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the abandoned 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. However, with implementation of Mitigation Measure B4, this impact would be reduced to a level less than significant under CEQA.

The creosote bush- white burr sage scrub vegetation along the Alternative 2 transmission line and the abandoned 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.

The abandoned 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.

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 significant impact under CEQA. Implementation of Mitigation Measure B3, specifically speed limits 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. 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. No significant impact under CEQA due to noise is expected to occur to this species.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. In order to prevent direct and indirect noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 2-Alternative Transmission Line Corridor site shall take place outside the raptors' breeding season of February 1 to July 15. If construction occurs during the breeding season, a significant impact under CEQA is anticipated to occur to active raptor nests. Implementation of Mitigation Measure B5 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 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; 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, and 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 Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the 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.

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. Implementation of Mitigation Measure B6 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 will 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. 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.

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 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. 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 Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010d) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the MBTA

C. 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, 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 CEQA. 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 B10 will reduce this impact 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 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 communities. Implementation of Mitigation Measure B3, specifically the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA.

D. 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 ACOE. 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 ACOE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the ISEC-West solar energy facility was identified during the preliminary jurisdictional delineation as potentially not being under the jurisdiction of ACOE. If this feature is determined not to be exempt, it will be avoided during construction of the proposed Solar Energy Facility and no mitigation will be required. The irrigation channels within the abandoned agricultural fields are man-made structures and are also being reviewed by the ACOE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACOE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the transmission line corridor. Implementation of Mitigation Measure B12 will reduce this impact to a level less than significant under CEQA.

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			
ACOE- Non-wetland waters			
Access roads		0.8	0.8
Monopole footings			
Lattice tower footings		<0.1	<0.1
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas			
Lattice tower work areas		0.3	0.3
Temporary ACOE-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*
ACOE TOTAL	-	*1.1*	*1.1*
CDFG TOTAL	*6.6*	*1.1*	*7.7*

Source: RECON Environmental, Inc., 2010.

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. 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 significant impact under CEQA to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

E. 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.

F. 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-Alternative Transmission Line Corridor transmission lines are 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.

4.12.1.4 Alternative 3- Reduced Solar Energy Facility Site

The Alternative 3-Reduced Solar Energy Facility Site includes the reduced solar energy facility (R-1) and transmission corridor portions (IVW-2 and IVW-2B).

A. 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. Table 4.12-10 below identifies the acres required for permanent and temporary impacts to vegetation communities.

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 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 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.

Reduced Solar Energy Facility Vegetation Impact

Implementation 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. The impact to tamarisk thicket vegetation is not considered significant under CEQA; thus, does not require mitigation. However, impacts to desert wash and mesquite thicket is considered a significant impact under CEQA. Implementation of Mitigation Measure B13, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

Approximately 1,041.6 acres of abandoned 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 will be conducted on the solar field. As the proposed project is expected to improve the habitat quality of the abandoned agricultural fields, impacts to the abandoned agricultural fields would be less than significant under CEQA and no mitigation would be required.

Proposed Action Transmission Line Corridor Vegetation Impact

The Proposed Action transmission line corridor would permanently impact 6.6 acres of creosote bush-white burr sage scrub and 0.2 acres of desert wash. 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 are considered significant under CEQA. Implementation of Mitigation Measure B13, in the form of mitigation acres, will reduce this impact to a level less than significant under CEQA.

B. 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 49 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

Construction Impact

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.

The Proposed Action transmission line corridor 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 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 are the minimum required to construct the project.

- The proposed ISEC West Solar Energy Facility is located outside of the Yuha MA, within abandoned 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 resources.
- 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 abandoned agricultural fields of the proposed ISEC West Solar Energy Facility. In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy,* the abandoned 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.

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.

As the proposed project is expected to improve the habitat quality of the abandoned agricultural fields, impacts to the abandoned 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 under CEQA to FTHL due to construction of the proposed project. Implementation of Mitigation Measure B2 and B14 will reduce the construction impact to FTHL to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted along the transmission line and within the ISEC West 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 of 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; using a high powered sprayer or hose for the washing.

FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the Solar Energy Facility, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. These potential impacts would be considered significant under CEQA. Implementation of Mitigation Measures B2 through B3 and B14 will reduce the direct O&M impact to a level less than significant under CEQA.

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. Implementation of Mitigation Measure B3, specifically the *Raven Control Plan,* shall be implemented to reduce 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 miles (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- 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 miles) of an occupied burrow(s).

Two occupied burrowing owl burrows were observed within the abandoned agricultural fields during on-going focused breeding season surveys. Implementation of 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. However, with implementation of Mitigation Measure B4, this impact would be reduced to a level less than significant under CEQA.

The creosote bush-white burr sage scrub vegetation along the proposed transmission line and the abandoned 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 transmission line.

The abandoned 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.

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 significant impact under CEQA. Implementation of Mitigation Measure B3, specifically speed limits 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. 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. No significant impact under CEQA due to noise is expected to occur to this species.

Nesting Raptors

Construction Impact

The existing transmission towers and few tall trees within the survey provide nesting opportunities for raptors. In order to prevent direct and indirect 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. If construction occurs during the breeding season, a significant impact under CEQA is anticipated to occur to active raptor nests. Implementation of Mitigation Measure B5 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; 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, and 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 Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the 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.

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. Implementation of Mitigation Measure B6 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 will 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. 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.

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 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 Imperial Irrigation District (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 Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010d) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. This ABPP is discussed further in Mitigation Measure B6, and will provide the applicant the vehicle to comply with the MBTA.

C. 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, 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 CEQA. 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 B13 will reduce this impact 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 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 communities. Implementation of Mitigation Measure B3, specifically the *Weed Management Plan*, will reduce the indirect impact to these natural communities to a level less than significant under CEQA.

D. 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 ACOE. 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 ACOE and CDFG jurisdictional resources.

Construction Impact

A small wash within the southern half of the ISEC-West solar energy facility was identified during the preliminary jurisdictional delineation as potentially exempt under the jurisdiction of ACOE. If this feature is determined not to be exempt, it will be avoided during construction of the proposed Solar Energy Facility and no mitigation will be required. The irrigation channels within the abandoned agricultural fields are man-made structures and are also being reviewed by the ACOE as possible features considered exempt from the jurisdiction.

A significant impact under CEQA to ACOE, CDFG, and RWQCB jurisdictional resources is anticipated from construction of the Proposed Action transmission line corridor. Implementation of Mitigation Measure B7 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. 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 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			
ACOE- Non-wetland waters			
Access roads		0.3	0.3
Monopole footings		<0.1	<0.1
Lattice tower footings			
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas		0.2	0.2
Lattice tower work areas		-	-
Temporary ACOE-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*
ACOE TOTAL	-	*0.5*	*0.5*
CDFG TOTAL	*6.6*	*0.6*	*7.2*

Source: RECON Environmental, Inc., 2010.

E. 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.

F. 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 lines are 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.

4.12.2 Mitigation Measures

4.12.2.1 Proposed Action

B1 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-13 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

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 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.

B2 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:

   - 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

[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.

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. Prior to Project initiation, a worker environmental awareness program (WEAP) will be developed and implemented, and will be 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:

   - 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.

5. 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. If the species is federally listed, only persons authorized by both CDFG and the USFWS will handle FTHLs. 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 USWFW, BLM, and CDFG.

6. 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.

7. 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).

8. 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, CEC, 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:

9. No later than January 31 of every year the Project remains in operation, the Designated Biologist will provide the BLM's Authorized Officer, USFWS, CDFG, 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.

10. 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 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.

B3 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 should be implemented:

- A brief Annual Report will be submitted to the relevant resource agencies documenting the implementation of the following general measures as well as any resource-specific measures such as habitat restoration and/or compensation:
  - Speed limits along all transmission access roads and within the solar energy facility should 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.
  - Annual formal Worker Education Training should be established for all employees and any subcontractors at the ISEC South to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury; and reporting procedures in the case of dead and/or injured wildlife species. The USFWS and the BLM shall be notified per approved guidelines and channels of authority if mortality should occur.
  - 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 CAFG.
  - A *Weed Management Plan* will be prepared and implemented that describes specific on-going measures to remove weedy plant species from the solar energy facility and encourages native plant growth. This plan should be prepared in conformance with herbicide and native seed/planting guidelines outlined in the project's Habitat Restoration Plan, and will be approved by the BLM.
  - 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. 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/).
  - An Avian and Bat Protection Plan (ABPP) will be prepared that will outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations. These measures incorporate APLIC design guidelines for overhead utilities (2006) by incorporating recommended or other methods that enhance the visibility of the

lines to avian species. The ABPP will also address disturbance minimization, timing of construction, minimization of activities that would attract prey and predators, and incorporation of the Wildlife Mortality Reporting Program and Raven Control Plan discussed above.

B4 Burrowing Owl

Burrowing owls have been observed in the abandoned agricultural fields within the proposed solar energy facility. The following measures will avoid, minimize, or mitigate potential impact to burrowing owl during construction activities:

1) Initial grading of the agricultural fields project footprint should take place between September 1 and January 31 to avoid impact to breeding burrowing owls.

   If construction is to begin during the breeding season, it is recommended that the measures below are 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 should 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 B2, 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.

B5 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 B6 Migratory Birds and Other Sensitive Non-migratory Species.

B6 Migratory Birds and Other Sensitive Non-migratory Bird Species

In order to reduce the potential indirect impact to migratory birds, bats and raptors, an Avian and Bat Protection Plan (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 might 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 to the maximum extent practicable.
- Clearing vegetation outside of the breeding season. 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 (and other sensitive non-migratory birds) nests. Direct impact to any active migratory bird nest should be avoided.
- Minimize wildfire potential.
- Minimize activities that attract prey and predators.
- Control of non-native plants.
- Apply APLIC design guidelines for overhead utilities (APLIC 2006) by incorporating recommended or other methods that enhance the visibility of the lines to avian species.

Operations and Maintenance Measures
Operations and maintenance conservation measures to be incorporated into the ABPP include:

- Preparation of a Raven Control Plan that avoids introducing water and food resources 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
- Minimize use of outdoor lighting.
- Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program

B7 Jurisdictional Waters

The proposed project will impact total of 0.5 acres of ACOE 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 on Table 4.12-15.

Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B2. 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 ACOE as mitigation for jurisdictional resources.

TABLE 4.12-15
Proposed Action Mitigation Requirements for Jurisdictional Resources

	Proposed Action Impacts (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
Permanent Impact			
ACOE- Non-wetland waters			
Access roads	0.3	1:1	0.3
Monopole footings	<0.1	1:1	<0.1
Lattice tower footings			
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas	0.2	1:1	0.2
Lattice tower work areas	-		
Temporary ACOE-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*
ACOE 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 ACOE 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 for impact to CDFG resources.

4.12.2.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures B2-B7 identified above in Section 4.12.2.1 for the Proposed Action will also be implemented for the Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

B8 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, 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.

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 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.

B9 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 B2. Compensation specific to Alternative 1-Alternative Transmission Line Corridor is shown in Table 4.12-17.

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.

4.12.2.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measures B2-B7 identified above in Section 4.12.2.1 for the Proposed Action will also be implemented for the Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

B10 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, 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.

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 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.

B11 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 B2. Compensation specific to Alternative 2-Alternative Transmission Line Corridor is shown in Table 4.12-19.

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 abandoned agricultural land is at a 0.5:1 ratio to be mitigated on-site in the form of habitat enhancement.

B12 Jurisdictional Resources Compensation

The Alternative 2-Alternative Transmission Line Corridor will impact total of 1.1 acres of ACOE 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 on 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 B11. 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 ACOE as mitigation for jurisdictional resources.

4.12.2.4 Alternative 3 –Reduced Solar Energy Facility Site

Mitigation Measures B2-B7 identified above in Section 4.12.2.1 for the Proposed Action will also be implemented for the Alternative 3-Reduced Solar Energy Facility Site, if this alternative were to be selected.

B13 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, 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			
ACOE- Non-wetland waters			
Access roads	0.8	1:1	0.8
Monopole footings			
Lattice tower footings	<0.1	1:1	<0.1
Permanent ACOE- 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			
ACOE- Non-wetland waters			
Monopole work areas			
Lattice tower work areas	0.3	1:1	0.3
Temporary ACOE-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*
ACOE 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 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.

B14 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 B2. Compensation specific to Alternative A is shown in Table 4.12-22.

4.12.5 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 Impact After Mitigation

4.12.3.1 Proposed Action

Implementation of Mitigation Measures B1 through B7 would reduce the impacts of the Proposed Action to biological resources to a level less than significant under CEQA.

4.12.3.2 Alternative 1-Alternative Transmission Line Corridor

Implementation of Mitigation Measures B2 through B7 and B8 through B9 would reduce the impacts of the Alternative 1-Alternative Transmission Line Corridor to biological resources to a level less than significant under CEQA.

4.12.3.3 Alternative 2-Alternative Transmission Line Corridor

Implementation of Mitigation Measures B2 through B7 and B10 through B12 would reduce the impacts of the Alternative 2-Alternative Transmission Line Corridor to biological resources to a level less than significant under CEQA.

4.12.3.4 Alternative 3-Reduced Solar Energy Facility Site

Implementation of Mitigation Measures B2 through B7 and B13 through B14 would reduce the impacts of the Alternative 3-Reduced Solar Energy Facility Site to biological resources to a level less than significant under CEQA.

4.12.3.5 Alternative 4-No Action/No Project Alternative

The Alternative 4-No Action/No Project Alternative would not result in biological resources impacts under CEQA. Therefore, no mitigation is required.

4.13 Paleontological Resources

CEQA Significance Criteria/NEPA Indicators

For the purposes of this EIR/EA, a significant Paleontological Resources 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: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

4.13.1 Environmental Consequences

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. Therefore, such impacts are considered significant.

The project site (which includes the solar energy facility and transmission corridor) 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. However, with the implementation of Mitigation Measures PR1 through PR5, provided below, paleontological resource impacts during construction would not be adverse under CEQA.

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 PR5 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 PR5 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 PR5 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.

4.13.2 Mitigation Measures

4.13.2.1 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.

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 Regional Paleontologist, Paleontology Lead, Paleontology Coordinator, appropriately trained and supervised BLM staff, or by a BLM-permitted consulting paleontologist hired by the project proponent.

(a) At the Field Manager's discretion, other qualified BLM staff may conduct surveys on small projects. Performance of surveys by BLM staff must also be approved by the Regional Paleontologist, Paleontology Lead, or Paleontology Coordinator.

(b) Surveys that are complex in nature, constrained by construction schedules, or otherwise cannot be performed by BLM staff 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.

(c) 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, or by a BLM Regional Paleontologist or qualified BLM designee. 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. Small projects are defined as less than 10 acres, or, if linear, less than five miles; large projects exceed those dimensions.

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 locational 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. If required, a copy should also be filed with the project proponent. 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. For small projects (less than 10 acres), the report must be filed within 30 days after completion of the survey unless specific approval for a different time frame has been received from the BLM. 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 10 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 are 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 BLM paleontologist or a qualified paleontologist hired by the proponent. 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 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.

If the survey was performed by BLM, a report similar in contents must be written and filed in the project file, and the project proponent notified as soon as possible upon completion.

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. 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, 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.

4.13.2.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures PR1 through PR5 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.13.2.3 Alternative 2-Alternative Transmission Line Corridor

Mitigation Measures PR1 through PR5 identified above for the Proposed Action will also be implemented for Alternative 2-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.13.2.4 Alternative 3-Reduced Solar Energy Facility Site

Mitigation Measures PR1 through PR5 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.

4.13.2.5 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 Impact After Mitigation

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.

4.14 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/NEPA Indicators

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 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*;

Furthermore, Executive Order 12898 requires a Proposed Action's impacts on Environmental Justice be considered as part of the NEPA Process:

Indicator 4: *Result in adverse effects or 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 Environmental Consequences

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, "induce substantial 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. To determine whether the Proposed Action would 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. 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 Proposed Action. As such, construction of the Proposed Action would place a negligible, temporary demand on housing, which 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 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. As such, the Proposed Action would not induce substantial population growth in the area. Neither does the Proposed Action provide any infrastructure, which would indirectly induce substantial population growth.

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 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 Proposed Action would not result in any socioeconomic conditions impacts. Rather, as discussed below, the Proposed Action would create solar energy for the area and is considered socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

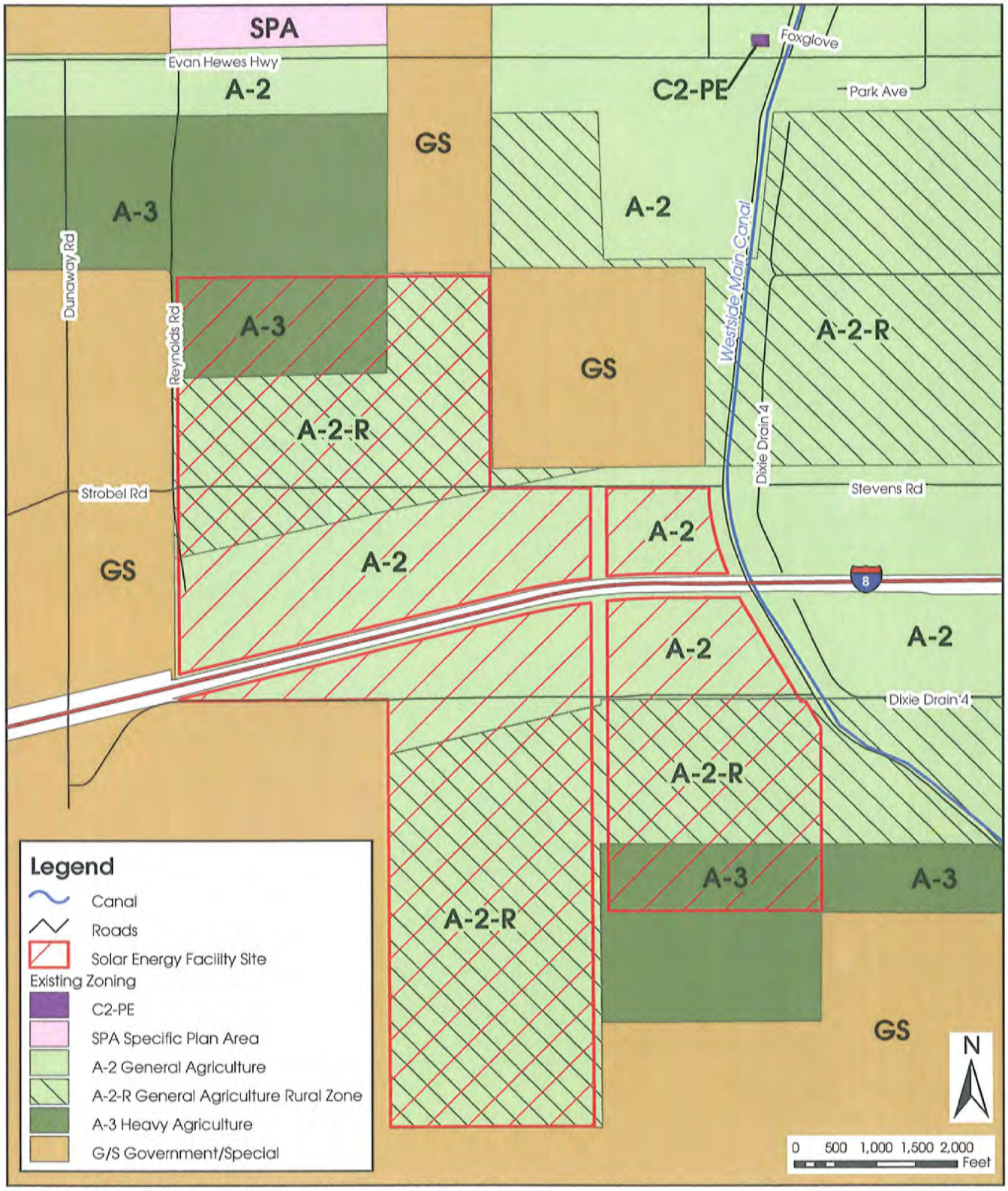
B. Environmental Justice

Indicator 4: *Result in adverse effects or 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.*

The minority population percentages in the Imperial County area 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. Those of a Caucasian ethnic composition compose the next highest group among one-race individuals with 49.4 percent. 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. The transmission lines would be located 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. 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 adverse effects or impacts that are appreciably more severe in magnitude or



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

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 significant 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

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 significant 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. 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, construction of the Alternative 1-Alternative Transmission Line Corridor would place a negligible, temporary demand on housing, which 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 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. As such, the Alternative 1-Alternative Transmission Line Corridor would not induce substantial population growth in the area. Neither does the Alternative 1-Alternative Transmission Line Corridor provide any infrastructure, which would indirectly induce substantial population growth.

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 not result in any socioeconomic conditions impacts. 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

Indicator 4: *Result in adverse effects or 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.*

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor's minority population percentages in the Imperial County area predominately Hispanic or Latino composition. This is considerably higher than for California as a whole. Those of a Caucasian ethnic composition compose the next highest group 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. The transmission lines would be located 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. 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 adverse effects or 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 significant 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 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 significant 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. 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, construction of the Alternative 2-Alternative Transmission Line Corridor would place a negligible, temporary demand on housing, which 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 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. As such, the Alternative 2-Alternative Transmission Line Corridor would not induce substantial population growth in the area. Neither does the Alternative 2-Alternative Transmission Line Corridor provide any infrastructure, which would indirectly induce substantial population growth.

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 not result in any socioeconomic conditions impacts. 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

Indicator 4: Result in adverse effects or 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.

Similar to the Proposed Action, the Alternative 2-Alternative Transmission Line Corridor's minority population percentages in the Imperial County area predominately Hispanic or Latino composition. This is considerably higher than for California as a whole. Those of a Caucasian ethnic composition compose the next highest group 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. The transmission lines would be located 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. 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 adverse effects or 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 significant 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 significant 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. 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, construction of the Alternative 3-Reduced Solar Energy Facility Site would place a negligible, temporary demand on housing, which 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 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. As such, the

Alternative 3-Reduced Solar Energy Facility Site would not induce substantial population growth in the area. Neither does the Alternative 3-Reduced Solar Energy Facility Site provide any infrastructure, which would indirectly induce substantial population growth.

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 not result in any socioeconomic conditions impacts. 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

Indicator 4: *Result in adverse effects or 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.*

Similar to the Proposed Action, the Alternative 3-Reduced Solar Energy Facility Site's minority population percentages in the Imperial County area predominately Hispanic or Latino composition. This is considerably higher than for California as a whole. Those of a Caucasian ethnic composition compose the next highest group 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. The transmission lines would be located 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. 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 adverse effects or 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 significant 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 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 significant 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.

4.14.2 Mitigation Measures

No mitigation measures are proposed as no adverse socioeconomic conditions and environmental justice impacts have been identified.

4.14.3 Impact After Mitigation

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 adverse socioeconomic conditions or environmental justice impact and no mitigation is required.

This page intentionally left blank.

4.15 Recreation

NEPA Indicators

For the purposes of this EIR/EA, a significant recreation 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: *Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas;*

Indicator 2: *Substantially 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 significant recreation impact 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: *Would the project 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: *Does the project 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 Environmental Consequences

4.15.1.1 Proposed Action

A. Transmission Line Corridor (BLM Land)

Indicator 1: *Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas.*

Indicator 2: *Substantially 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.*

The Proposed Action's transmission line corridor 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 corridor site is located within the Yuha Desert Recreation Lands. 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." The Limited Use designation also limits all motorized travel to designated routes. Utility Corridor "N" is not designated for OHV recreation; however, the BLM lands located adjacent to the Utility Corridor "N" can be used for OHV recreation. With the installation of the transmission line corridor 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.

Furthermore, the Proposed Action would not construct access routes within the BLM lands that could potentially be used as corridor for OHV use. As such, 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; substantially 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. Solar Energy Facility Site (Private Land in Imperial County)

Indicator 4: *Would the project 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: *Does the project 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 on private land in the County of Imperial.

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: *Substantially 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: *Would the project 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: *Does the project 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 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 adjacent 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. 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: *Substantially 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: *Would the project 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: *Does the project 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 adjacent 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. 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: *Substantially 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: *Would the project 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: *Does the project 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 adjacent 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. 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 significant recreation impacts would occur from the Alternative 4-No Action/No Project Alternative.

4.15.2 Mitigation Measures

No mitigation measures are proposed as no significant recreation impact has been identified.

4.15.3 Impact After Mitigation

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. Therefore, no mitigation is required.

This page intentionally left blank.

4.16 Special Designations

NEPA Indicators

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 3-No Action/No Project Alternative. For purposes of this EIR/EA, a significant special designations 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: *Conflict with the management goals of any special designation area.*

Methodology

The Proposed Action was evaluated for its impacts on special designations based on a review of Wilderness Act, Federal Land Policy and Management Act, California Desert Conservation Area Plan, BLM's National Scenic Trails System, and National Wild and Scenic Rivers Act.

4.16.1 Environmental Consequences

The special designation considered in the analysis is:

- Areas of Critical Concern (ACECs).

This resource is described in the following sections.

As discussed in Section 3.16, because the project site for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Alternative Transmission Line Corridor, and Alternative 3-Reduced NaSolar Energy Facility Site does not have any special designations involving certain resources, they will not be discussed further in this section and no impact is identified for these issue areas. These resources are:

- Wilderness Areas;
- Donated Lands;
- National Scenic and Historic Trails;
- National Wild and Scenic Rivers;
- BLM designated range allotments or pasture for wildlife or livestock; and,
- Designated Wilderness Areas.

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 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 4.12.2 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Therefore, the Proposed Action would not conflict with the management goals of any special designation area.

4.16.1.2 Alternative 1-Alternative Transmission Line Corridor

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 ACEC in order to minimize impacts to this sensitive area. Similar to the Proposed Action, Alternative 1-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 discussed in EIR/EA Section 4.12 are in conformance with the CDCA and the integrity and intent of the Conservation Plan would be maintained. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not conflict with the management goals of any special designation area.

4.16.1.3 Alternative 2-Alternative Transmission Line Corridor

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 ACEC in order to minimize impacts to this sensitive area. Similar to the Proposed Action, 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 discussed in EIR/EA Section 4.12 are in conformance with the CDCA and the integrity and intent of the Conservation Plan would be maintained. Therefore, the Alternative 2-Alternative Transmission Line Corridor would not conflict with the management goals of any special designation area.

4.16.1.4 Alternative 3-Reduced Solar Energy Facility Site

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 ACEC in order to minimize impacts to this sensitive area. Similar to the Proposed Action, Alternative 3-Reduced Solar Energy Facility Site 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 he integrity and intent of the Conservation Plan would be maintained. Therefore, the Alternative 3-Reduced Solar Energy Facility Site would not conflict with the management goals of any special designation area.

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 effects on visual resources from the Alternative 4-No Action/No Project Alternative.

4.16.2 Mitigation Measures

No mitigation measures are proposed as no significant special designations impact has been identified.

4.16.3 Impact After Mitigation

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 special designations impact and no mitigation is required.

This page intentionally left blank.