4.0 ENVIRONMENTAL CONSEQUENCES

Introduction

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

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

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

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

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

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4.1 Visual Resources

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

CEQA Significance Criteria/NEPA Indicators

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

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

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

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

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

NEPA Methodology

The BLM uses the Visual Resources Management (VRM) System to manage public lands in a manner that will protect the quality of the visual (scenic) values in accordance with Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 (FLPMA). The BLM incorporates the VRM System into its Resource Management Plan (RMP) by inventorying and classifying the Plan area's visual resources to manage and protect scenic resources on the public lands.

Impacts under NEPA are defined in terms of context and intensity. Context means that the action must be analyzed in several contexts, such as society, the affected region, affected interests, and locale. Intensity refers to the severity of impact, and includes a variety of factors to be considered (40 CFR §1508.27). The above mentioned indicators are used to guide the analysis and provide a background of context while some of the qualitative analysis will provide for the review of the Proposed Actions impacts and provide a discussion of the intensity of the impacts.

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. Cumulative impacts to visual resources are discussed in Chapter 5 – Cumulative 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 limited, available specifically from SR-98, Pulliam Road, Anza Road, and Cook Road. Due to the flat topography of the project site and the surrounding area, besides the existing transmission lines located within the BLM Utility lands (within designated corridor "N"), the project site is not readily visible from many viewpoints within the surrounding area.

As discussed in Section 3.1, nine key observation points (KOPs) of the project site were identified during a visibility analysis conducted by BRG Consulting, Inc., on June 16, 2010. As depicted on Figure 3.1-1, of these nine KOPs, four were identified as KOPs that provide potential viewpoints of the proposed transmission line corridor on BLM lands (KOPs 1, 2, 3, and 4), which are all along SR-98. The other five KOPs provide potential viewpoints of the solar energy facility site located within Imperial County private lands (KOPs 5, 6, 7, 8, and 9), which are located along SR-98 and within the project site. The proposed use of an access road within the BLM lands is not visible from any KOPs.

4.1.1.1 Proposed Action

A. Scenic Vista

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

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

B. Scenic Resources and State Scenic Highway

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

There are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the project site. In addition, there are no designated scenic highways surrounding the project

site nor is the project site visible from any scenic highway or designated 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 and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 5 miles west of the Proposed Action; views from this trail have a potential to be identified as a scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

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

The Proposed Action consists of three primary components: 1) the construction and operation of the Imperial Solar Energy Center South solar energy facility on existing agriculture land; 2) the construction and operation of the electrical transmission lines on the adjacent BLM lands; and, 3) the improvement and use of the existing dirt access road, a portion of which traverse BLM lands.

Solar Energy Facility Site

Currently, the portion of the project site proposed for the solar energy facility is utilized 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 agricultural land for the construction of a 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, based on a visual analysis conducted by BRG Consulting, Inc., the solar energy facility site is not readily visible from surrounding roads and KOPs. It is visible from immediately surrounding agriculture land and roads adjacent to the site; however, agriculture land is not considered a significant visual resource and no individuals are present on such lands to view the site. Therefore, in the short-term, no impact to the visual character or quality is anticipated.

As discussed in Chapter 2.0 of this EIR/EA, 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 screen views onto the site, including most of the proposed equipment at the site. Taller structures, such as the Operations and Maintenance building and transmission towers would be visible.

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 and 2-11 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. Project perimeter fencing would screen the low-lying structures (arrays, transformers) from view. The 60-foot-high wooden poles would be visible, although, they would not obstruct distant views.

The 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 field. Portions of the Operations and Maintenance building would be visible; however, the structure would be screened by the fence around the perimeter of the site.

Based on preliminary engineering, Figure 4.1-1 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 be located along the northwestern portion of the site. 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-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. V10-0006) 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. In addition, due to the distance of the location of the project site from surrounding roadways, the transmission towers located on the solar energy facility site would not be readily visible from any KOPs. Furthermore, 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 under CEQA and these towers would be the same height as existing facilities within the general area.

SOURCE: BRG Consulting, Inc., 2010

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BRG CONSULTING, INC.

Imperial Solar Energy Center South

Conceptual Transmission Line Tower Locations on Solar Energy Facility Site

FIGURE 4.1-1

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-1 Location Transmission Towers.ai

The installation of the proposed solar facility equipment discussed above would change the existing character of the site from an agricultural field to a solar energy facility. However, due to the flat topography of the site and surrounding area; location of the project site that is removed from most public views within an area surrounded by existing agriculture land; and, the installation of the perimeter fencing the equipment proposed to be installed on the project site would not be visible from any surrounding view point.

The Proposed Action would change the existing visual character of the site from existing agriculture land to a solar energy facility; the site is not visible from any KOPs and would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts to the existing visual character or quality of the site and its surroundings resulting from this component of the Proposed Action are considered less than significant for CEQA purposes.

Transmission Line Corridor

As discussed in Section 2.0 of this EIR/EA, the solar 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 would extend from the north side of the existing Imperial Valley Substation, south approximately five miles and then east to the Imperial Solar Energy south site. 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 (Figure 2-16). 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 2-19 and 2-20), deflection (Figures 2-21 and 2-22), and dead end towers (Figure 2-23). 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 proposed transmission line corridor located on BLM lands is visible from four KOPs located along SR-98 (Figure 3.1-1). Figure 4.1-2 depicts the visual simulation of the proposed transmission lines and towers. As depicted on Figure 4.1-2, the proposed transmission line corridor would be similar to the three existing transmission facilities located within this corridor. The Proposed Action is located immediately east of the existing Sempra 230kv, Intergen 230kv, and IV-Rosita overhead and tower structures for a majority of the alignment. The facilities would veer directly east from the existing lines in order to connect to the solar facility site.

As discussed in Section 3.1 of this EIR/EA, the proposed transmission line corridor is located within a VRM Class III area. The level of change to the landscape within the VRM Class III area can be moderate. The objective of this class is to "partially retain the existing character of the landscape" such that management actions do not dominate the view and changes should repeat the basic elements found in the natural landscape (BLM, 1984). Additionally, 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." The location of the Proposed Action within an existing transmission line corridor

Existing setting from SR-98 looking southwest towards the project site

Visual Panoramic Simulation

SOURCE: BRG Consulting, Inc., 2010

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BRG CONSULTING, INC.

Imperial Solar Energy Center South

Visual Simulation

FIGURE 4.1-2

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-2 Visual Simulation.ai

would minimize additional visual impacts by making use of an area already utilized for the same purpose and by not expanding outside the designated corridor. In addition, the materials used for the new towers and transmission lines would be similar and consistent with the color, texture, and materials utilized for the existing transmission towers and transmission lines.

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, changes to visual resources within BLM lands would be minimal. Overall, the proposed transmission line corridor would be visually similar to the existing corridor and the project site is designated for such use. Therefore, implementation of the Proposed Action would not substantially degrade the existing visual character or quality of the site and its surroundings, and no direct or indirect effect with regard to this resource is anticipated under CEQA. Therefore, this issue is considered less than significant under CEQA.

Access Road

As discussed in Section 3.1, the dirt access road within BLM lands is not visible from any KOPs. In addition, the Proposed Action would widen this road by approximately 5-feet; however, the road would remain a dirt road and will be used as an access road during construction and operation of the project. As such, use of this road would not change the use and would not substantially degrade the existing visual character or quality of the site and its surroundings and is considered a less than significant impact under CEQA. Construction and use of the access road would not directly or indirectly impact the visual character or the quality of the site and its surroundings.

D. Light and Glare

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

Light

The project site is 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 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, there are no direct or indirect impacts and 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 effect on a scenic vista.

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor 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. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are identified as a designated scenic vista. Therefore, development of the Alternative 1-Alternative Transmission Line Corridor would not have a substantial direct or indirect effect on a scenic vista under CEQA. No impact under CEQA is identified for this issue area.

B. Scenic Resources and State Scenic Highway

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

Similar to the Proposed Action, there are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the Alternative 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 scenic highway or designated public vantage point. Therefore, Alternative 1-Alternative Transmission Line Corridor would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 5 miles west of the Proposed Action; views from this trail have a potential to be identified as a scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

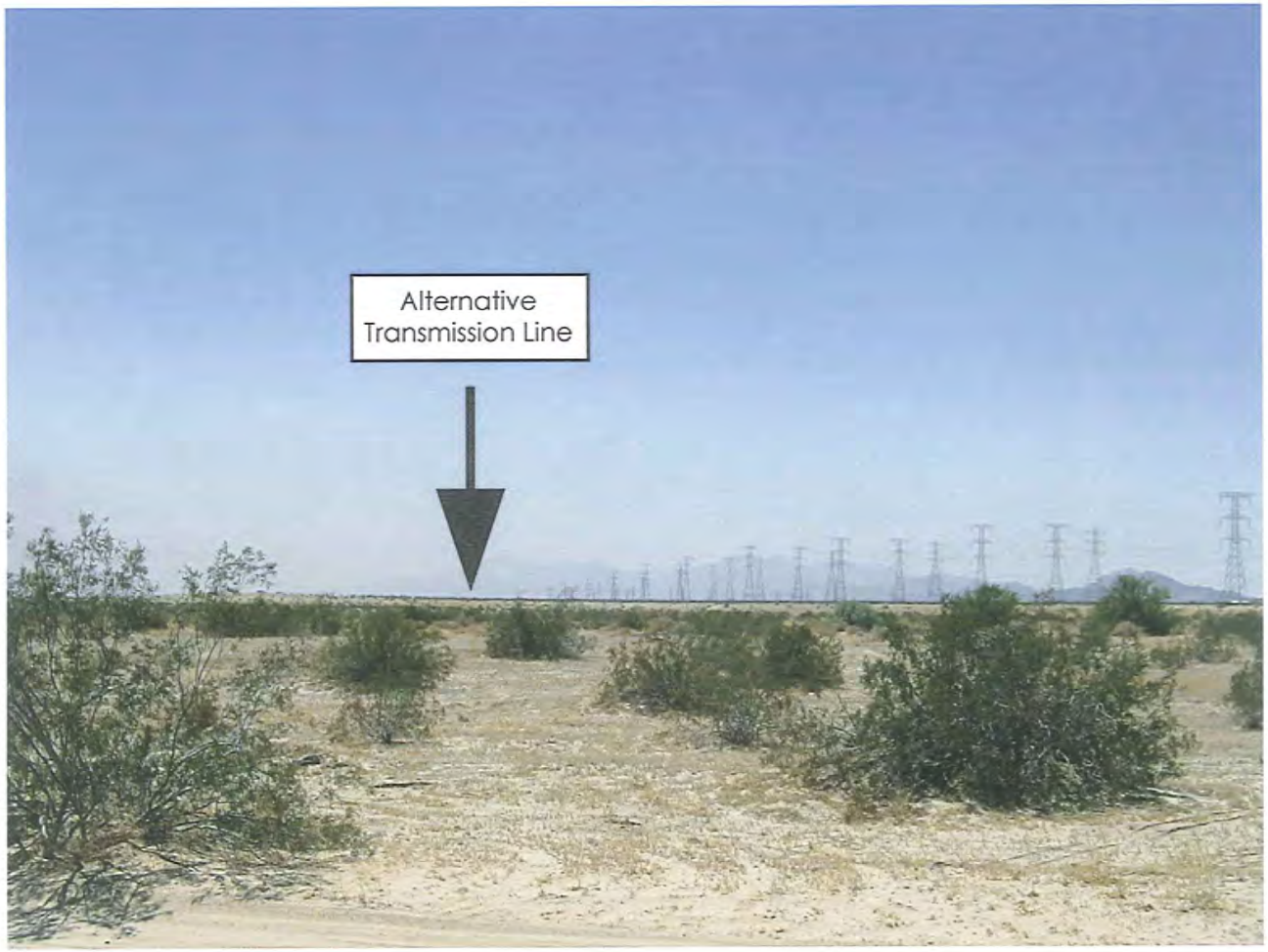
Indicator 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

Alternative 1-Alternative Transmission Line Corridor is similar to the Proposed Action because the solar energy facility site would be developed the same as in the Proposed Action. However, the bottom southern portion of the transmission corridor would be different than the Proposed Action. 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 and the majority of the transmission line corridor would be visible from the same four KOPs as the Proposed Action. As depicted on Figure 4.1-3, the southern portion of the transmission line corridor is not visible from any existing KOPs, because it is too far south and the existing topography and transmission lines block any views of this portion of the transmission line corridor. In addition, the access road within BLM lands would be widened by 5-feet; however, the road would be located within the same area and use of the road would be similar to its existing use. As such, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would not substantially degrade the existing visual character or quality of the site and its surroundings, and no direct or indirect effect with regard to this resource is anticipated under CEQA. Also, this issue is considered less than significant under CEQA.

D. Light and Glare

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

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor 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.). Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.



View from KOP #2 (SR-98) looking south towards transmission line corridor. This view shows BLM lands and existing transmission towers. However, due to the existing topography the southern portion of the transmission line corridoris not readily visible.

SOURCE: BRG Consulting, Inc., 2010

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BRG CONSULTING, INC.

Imperial Solar Energy Center South

View of Southern Portion of Transmission Line Corridor

FIGURE 4.1-3

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 1\Figure 4.1-1 Location Transmission Towers.ai

4.1.1.3 Alternative 2-Reduced Solar Energy Facility Site

A. Scenic Vista

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

Similar to the Proposed Action and Alternative 1-Alternative Transmission Line Corridor, Alternative 2-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. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are identified as a designated vista. Therefore, development of the Alternative 2-Reduced Solar Energy Facility Site would not have a substantial direct or indirect effect on a scenic vista under CEQA. No significant impact under CEQA is identified for this issue area.

B. Scenic Resources and State Scenic Highway

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

Similar to the Proposed Action and Alternative 1-Alternative Transmission Line Corridor, there are no historic structures or scenic resources, including trees, rock outcroppings, or historic buildings, existing on the Alternative 2-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 2-Reduced Solar Energy Facility Site would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway and is not expected to directly or indirectly affect scenic resources or any State scenic highway under CEQA. The Juan Bautista de Anza National Historic Trail is located approximately 5 miles west of the Proposed Action; views from this trail have a potential to be identified as a scenic resource. However, due to its distance from the project site and flat topography of the land within the project area, the project site is not readily visible from this trail. Although transmission facilities could be visible along portions of the trail, the proposed transmission towers would be similar in use and scale as the existing towers and transmission facilities in the area and therefore would not substantially damage scenic resources from the Juan Bautista de Anza National Historic Trail. Any effect on views from the Historic Trail would be minimal, and for CEQA purposes would be considered less than significant.

C. Visual Character or Quality

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

Under Alternative 2-Reduced Solar Energy Facility Site, the solar energy facility site would be reduced in size compared to the Proposed Action and Alternative 1-Alternative Transmission Line Corridor. However, the

transmission line corridor would be the same as the Proposed Action. Similar to the Proposed Action, the solar energy facility site is not visible from any KOPs and the transmission line corridor is visible from four KOPs. However, as discussed above, 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. In addition, the access road within BLM lands would be widened by 5-feet; however, the road would be located within the same area and use of the road would be similar to its existing use. As such, similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site would not substantially degrade the existing visual character or quality of the site and its surroundings and no direct or indirect effect with regard to this resource is anticipated under CEQA.

D. Light and Glare

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

Similar to the Proposed Action and Alternative 1-Alternative Transmission Line Corridor, Alternative 2-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 2-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 2-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 2-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 and would not impact users of the area (e.g., campers, stargazers, and recreational users of the desert, etc.). Therefore, there are no direct or indirect impacts and this issue is considered less than significant under CEQA.

4.1.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on visual resources from the Alternative 3-Noi Action/No Project Alternative.

4.1.1.5 CEQA Summary

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

4.1.2 NEPA Environmental Assessment Summary

4.1.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.1.1.1, the Proposed Action is not located in a designated scenic vista, nor has the County of Imperial General Plan designated the project site as an important visual resource. Even though this indicator provides the context in which to review the project, the fact remains that an additional transmission line will be constructed. The acknowledgement of no specifically designated area does not negate the fact that an incremental impact of an additional transmission line within the corridor does occur. Since the corridor was planned and provided for this particular use, projects of that nature were projected. Development of the Proposed Action would not directly or indirectly alter or change a designated scenic vista, nor would the Proposed Action affect scenic resources that have not already been altered by previous development or that have been expected via the designation of the utility corridor (NEPA Indicator #1).

Based on the analysis provided above under Section 4.1.1.1, the Proposed Action would not directly or indirectly alter scenic resources within a state scenic highway, as no designated state scenic highway is located within proximity to the project site (NEPA Indicator #2).

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; therefore, the visual resources within BLM lands would not be altered. Because the proposed transmission line would be similar to the existing facilities and the project site is designated for such use, implementation of the Proposed Action would not substantially degrade the existing visual character or quality of the site and its surrounding viewshed (NEPA Indicator #3). Visual simulations of the Proposed Action demonstrate that implementation of the Proposed Action would alter the visual appearance of the project site from its existing undeveloped character. However, the transmission line is located within VRM Class III area, which allows for a moderate level of change to the landscape. (NEPA Indicator #3).

In addition, similar to the solar energy facility site, the access road is not visible from any KOPs or designated scenic highways or vistas. As such, the widening and use of this road would not directly or indirectly alter visual resources in this area (NEPA Indicator #3).

With regard to light (NEPA Indicator #4), as discussed in Section 4.1.1.1 above, the Proposed Action would utilize temporary lighting during construction in the area of the O&M building for safety and security. In addition, permanent lighting will be used in the area of the O&M building as well as transmission towers. Both temporary and permanent lighting will be designed to provide minimum illumination needed to achieve safety and security objectives and will be downward shielded to focus illumination on the desired areas only.

As discussed above under Section 4.1.1.1, the proposed photovoltaic modules are non-reflective (would not create a source of glare during sunlight hours). The Proposed Action would not use materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs, which have the potential to create on- and off-site glare. In addition, the Proposed Action would not use materials that would reflect glare upwards in a manner that would affect the air base training flights or other air traffic. Therefore, future development on the project site is not anticipated to create a new source of glare which would directly or indirectly affect day or nighttime views in the area (NEPA Indicator #4).

B. Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would have impacts similar to those mentioned above. Routing of the transmission line would still occur within the designated corridor and would not increase the impacts to designated scenic vistas or other important visual resources (NEPA Indicator #1).

As mentioned in the analysis above, there are no designated scenic highways of back country byways that would be impacted by the Proposed Action. The project components would still be visible, however, the impacts would be similar to the existing development in the area (NEPA Indicator #2).

As discussed above in Section 4.1.1.2, this alternative is similar to the Proposed Action. 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. Therefore, the visual resources within BLM lands would not be altered. Because the proposed transmission line corridor would be similar to the existing corridor and the project site is designated for such use, implementation of Alternative 1-Alternative Transmission Line Corridor would not degrade the existing visual character or quality of the site and its surroundings (NEPA Indicator #3).

The lighting impacts and the impacts with regards to glare would be the same as the Proposed Action since this Alternative does not modify that portion of the project (NEPA Indicator #4).

C. Alternative 2-Reduced Solar Energy Facility Site

Similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site would have impacts similar to those mentioned above. Routing of the transmission line would still occur within the designated corridor and would not increase the impacts to designated scenic vistas or other important visual resources. The reduction in the size of the project site may reduce the intensity of the impact to the viewshed, however not to the extent to fully remove the impact. The project footprint, whether as in the Proposed Action, or this Alternative would still result in a change in the visual character of the area (NEPA Indicator #1).

As mentioned in the analysis above, there are no designated scenic highways of back country byways that would be impacted by the Proposed Action. The project components would still be visible; however, the impacts would be similar to the existing development in the area. And, as mentioned above, the reduced

footprint may lower the level of impact, but the impact is still a result of the Proposed Action (NEPA Indicator #2).

As discussed above in Section 4.1.1.3, this alternative is similar to the Proposed Action; however, the project would be reduced in size from that of the Proposed Action. Therefore, because the project would still result in a change in the visual character of the area, implementation of Alternative 2-Reduced Solar Energy Facility Site would not reduce the impacts in a greater manner than the Proposed Action(NEPA Indicator #3).

The lighting impacts and the impacts with regards to glare would be the same as the Proposed Action since this Alternative does not modify that portion of the project and the O&M building would still be required for the project. However, the overall effect of reducing the project would reduce the potential for glare within the area based on the reduced number of solar panels. (NEPA Indicator #4).

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.1.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on visual resources from the Alternative 3-No Action/No Project Alternative.

4.1.3 Mitigation Measures and Residual Impacts

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

4.2 Land Use

CEQA Significance Criteria/NEPA Indicators

For the purposes of this EIR/EA, a significant Land Use impact, under CEQA, would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-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 any applicable habitat conservation plan or natural community conservation plan.*

NEPA Methodology

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

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

4.2.1 Environmental Consequences

4.2.1.1 Proposed Action

A. Divide Established Community

Indicator 1: Physically divide an established community.

The solar energy facility portion of the project site is not close to dense urban uses, rather it is generally surrounded by agricultural lands and BLM lands designated and used for utility corridors. The solar energy facility site is currently used for agricultural purposes. Development and operation of the Proposed Action would not divide a community as no established community exists within, or surrounding the proposed solar energy site and the project would not physically divide a community. Additionally, as discussed in Section 4.8, no physical impact, such as noise, that could conflict with adjacent uses, has been identified with the Proposed Action.

The proposed transmission line corridor is located within a designated utility corridor (Utility Corridor "N" as designated in the CDCA) adjacent to three existing transmission lines. The transmission line corridor would extend through undeveloped desert lands, and no residential community exists in the area. The proposed access road is also located along an existing dirt road that is currently used by the IID and others for purposes of maintenance and operations to the Westside Main Canal in the area. As discussed in Section 4.15 of this EIR/EA, this road is designated as "open" and is therefore available for OHV use. The project would not preclude or alter the continuation of this use. Use of the access road for construction and maintenance would not prohibit or diminish the existing vehicular use of the road by others.

For these reasons, the Proposed Action would not physically divide an established community and would have no direct or indirect impact on an established community. For purposes of CEQA, the Proposed Action's effect is not considered a significant impact.

B. Existing Land Use Plans, Policies and Regulations

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

Federal Land Management Policy Act, 1976

The construction and operation of the proposed transmission 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

corridor and access road proposed under the Proposed Action would be consistent with this provision because: 1) the proposed transmission corridor would be located immediately adjacent to three existing and planned electrical transmission line corridors through BLM lands; 2) they are located within a designated utility corridor; and, 3) the access road is aligned with an existing dirt road within the BLM lands. The solar energy portion of the site is on privately-owned land and therefore not subject to the FLMPA. For these reasons, the Proposed Action would not conflict with the FLMPA. For purposes of CEQA, the Proposed Action's effect is not considered a significant impact.

California Desert Conservation Area Plan 1980, as amended

Public lands within the CDCA are managed based on the concepts of multiple-use, sustained yield, and maintenance of environmental quality. The proposed transmission line corridor and the proposed access road for the Proposed Action are located entirely within the CDCA-designated Utility Corridor "N" (see Figure 3.2-3). As shown in Table 1, of the CDCA Plan, Multiple-Use Class Guidelines, within the Limited Use area, "New gas, electric, and water transmission facilities and cables for interstate communication may be allowed only within designated corridors" (see Energy Production and Utility Corridors Element). The proposed transmission lines and access road portion within BLM lands would be considered an allowed use as they would be located within a designated utility corridor (Utility Corridor "N").

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

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

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

As discussed in EIR/EA Section 4.12 Biological Resources, the Proposed Action's potential impacts to biological resources is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive resources and cultural resources. The Proposed Action is designed to be consistent with the California Desert Conservation Area Plan, Yuha Desert Basin ACEC

Management Plan, and Flat-tailed Horned Lizard Rangewide Management Strategy. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B1 (Mitigation of Impacts to Vegetation Communities), B3 (Burrowing Owl), B4 (General O&M Mitigation) and B5 (FTHL Mitigation Measures) (EIR/EA Section 4.12 Biological Resources) have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered) are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. The Proposed Action transmission line corridor is located in a previously disturbed area that has three existing transmission lines and access roads, thereby minimizing additional disturbance to natural desert lands and minimizing effects to archeological resources. For these reasons, the Proposed Action is not inconsistent with the Yuha ACEC Management Plan or the FTHL RMS. Therefore, the Proposed Action's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

The County's General Plan applies to the solar energy facility portion and access road within private lands of the Proposed Action. These components are located within the jurisdiction of the County of Imperial. The remaining portion of the site (i.e., transmission line corridor and a portion of the access road) 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, 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 and access road within private lands of the Proposed Action would require issuance of a CUP (CUP#10-0011) and an environmental analysis.

The Land Use Compatibility Matrix (Table 4 of the Land Use Element) identifies land designated with an "Agriculture" land use as 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 solar facility; including the proposed access road.

Table 4.2-1 provides an analysis of the proposed solar facility's consistency with applicable General Plan goals and policies. The proposed solar facility and access road is considered to be in substantial conformance with the goals and objectives as identified in Table 4.2-1. "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].

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, and Alternative 2 – 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 Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site is 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 and access road (for the Proposed Action, Alternative 1 – Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site) is located entirely within the designated Utility Corridor "N" (see Figure 3.2-3). The proposed transmission line and access road are considered an allowed use as they would be located within a designated utility corridor, thereby minimizing to the extent possible any additional disturbance to desert lands. Furthermore, the project will require approval by the BLM a grant of right-of-way in order to allow the construction and operation of the proposed transmission lines and access road within federal lands managed by the BLM. As such, with the construction of the proposed transmission line and access road within the existing Utility Corridor "N" and the approval of a grant of right-of-way from the BLM, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site would be consistent with this objective.
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, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with this objective. The Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site is anticipated to result in a minimal increase in water demand and use. Water will be needed for domestic

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

Land Use Element (cont'd.)	
Public Facilities (cont'd.)	
	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, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with this objective. With approval of a conditional use permit, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site would be consistent with the County's land use ordinance. Furthermore, the project will be required to obtain a grant of right-of-way from the BLM to construct and operate transmission lines and a portion of the access road 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, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with this objective, as the project will be required to obtain a grant of right-of-way from the BLM
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, and Alternative 2 – Reduced Solar Energy Facility Site is 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.

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

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/Scenic Highways 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 is consistent with the County's General Plan Circulation and Scenic Highways 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, and Alternative 2 – 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, and Alternative 2 – Reduced Solar Energy Facility Site. As such, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with the County's General Plan Circulation and Scenic Highways Element.
Noise Element	
Noise Environment	
Objective 1.3 Control noise levels at the source where feasible.	The Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with this objective. As discussed in EIR/EA Section 4.8, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – 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, and Alternative 2 – Reduced Solar Energy Facility Site is consistent with this goal. As discussed in EIR/EA Section 4.8, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 – Reduced Solar Energy Facility Site will meet the County's noise standard.

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

Noise Element (cont'd.)	
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, and Alternative 2 – Reduced Solar Energy Facility Site is 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, and Alternative 2 – Reduced Solar Energy Facility Site will meet the County's noise standard.
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, and Alternative 2 – Reduced Solar Energy Facility Site is 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 significant geotechnical hazards located on the project site. However, with the implementation of the recommendations provided in the geotechnical report, these impacts are reduce 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, and Alternative 2 – Reduced Solar Energy Facility Site is 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 significant geotechnical hazards located on the project site. However, with the implementation of the recommendations provided in the geotechnical report, these impacts are reduce to a level less than significant. The project is consistent with this objective.

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

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 potentially significant biological resources located on the project site. However, with the implementation of Mitigation Measures B1 through B9, these impacts are reduced to a level less than significant. The project is consistent with this objective.
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, 19 cultural resources are found within the APE. The Proposed Action would result in an adverse effect to one previously recorded site (IMP-3999) located within the APE during construction of the project However, with the implementation of Mitigation Measures CR1 through CR4 of this EIR/EA, the impact to cultural resources will be 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. 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, and Alternative 2 – 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, and Alternative 2 – 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.)

Conservation and Open Space Element (cont'd.)	
Conservation of Energy Sources (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, and Alternative 2 – Reduced Solar Energy Facility Site would obtain a grant of right-of-way from the BLM to construct transmission lines and improve a portion of the access road within BLM's Utility Corridor "N."
Agricultural Lands and Biological Resources (cont'd.)	
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 and a portion of the access road 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.

However, the proposed solar facility portion of the Proposed Action would not be consistent with specific goals, policies and objectives associated with Agriculture. Section 4.9 Agricultural Resources of this EIR/EA provides a detailed consistency analysis with these goals and objectives. As proposed, the proposed solar facility portion of the Proposed Action would conflict with the County's Agricultural goals and objectives, and the implementation of Mitigation Measure AR1 is required pursuant to County policy (see Section 4.9 Agricultural Resources of this EIR/EA).

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 site from 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 because such activity would be restricted to those with legal access to this private property. The Proposed Action's conversion of agricultural lands as it affects recreational use at this location is addressed in Section 4.9 of this EIR/EA.

With implementation of Mitigation Measure AR1, which requires either payment of a mitigation fee, conservation easements, or a reclamation plan and bond to offset loss of agriculture pursuant to the County's approval of CUP #10-0011, the Proposed Action would not conflict with the County's General Plan. Therefore, the use of the project site as a proposed solar energy facility is considered a less than significant impact under CEQA.

County of Imperial Land Use Ordinance

The Proposed Action is the construction and operation of a solar energy facility, associated electrical transmission lines, and improvement to an existing dirt access road for access. Development of the solar 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-R and A-3 zones, subject to securing a conditional use permit. ("Transmission lines, including supporting towers, poles, microwave towers, utility substations" are permitted uses within the A-3 Zone.) Pursuant to Title 9, Division 5, Chapter 8, "Solar energy electrical generator," "Electrical power generating plant," "Major facilities relating to the generation and transmission of electrical energy," and "Resource extraction and energy development," are uses that are permitted in the A-3 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#10-0011) has been filed which would allow the uses of the Proposed Action including proposed access, to occur within the 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 proposed solar facility site. Therefore, no significant impact under CEQA related to the County of Imperial Land Use Ordinance would occur.

A new transmission line is required to connect the proposed solar generating facility to the electric grid at the Imperial Valley substation, located approximately 5 miles northwest of the proposed solar site. The proposed transmission line would be placed adjacent to the three existing transmission lines within Utility Corridor "N." In order to safely run adjacent to the existing transmission lines, the proposed transmission towers must be located adjacent to the existing towers. A total of four transmission towers would be constructed within the solar facility site, under the County's jurisdiction, along the northwestern boundary of the site. In order to safely span the same distance, the transmission towers must 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-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. V10-006) has been filed which, if approved by the County, would allow the new towers to be built at 140 feet in height and only apply to those towers located on the private land portion of the Proposed Action. No variance is required for the BLM portion of the project. 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, the Proposed Action would be consistent with the County's land use ordinance and the underlying zoning of County land.

For these reasons, the Proposed Action would not result in a significant impact related to the County of Imperial Land Use Ordinance. Therefore, no significant impact under CEQA associated with the County's land use ordinance has been identified.

Airport Land Use Compatibility Plan (ALUCP)

The project site is located approximately six miles south of the Naval Air Facility, El Centro. The project site is not located within any of the zones within the ALUCP. Therefore, the proposed solar energy facility, transmission line corridor and proposed access road are each compatible with the ALUCP. Furthermore, on June 16, 2010, the Airport Land Use Commission (ALUC) reviewed the proposed application, including the variance for transmission tower height, and determined that this portion of the Proposed Action would be consistent with the ALUCP and no height restrictions are required. Therefore, the proposed solar energy facility and associated transmission towers on the energy facility site and within BLM lands have been determined to be consistent with the adopted ALUCP. No structures are proposed within the proposed access road. In addition, based on a review of the 14 CFR Part 77.13 criteria, the project is not required to provide notice to the FAA, because the project does not meet the criteria requirements and is not located within any airport compatibility zones. No significant impact under CEQA is identified for this issue area.

C. Conservation Plans

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

The Proposed Action area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The

County of Imperial is not within the boundary of any adopted HCP or NCCP. The proposed solar energy facility including the access road would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA.

California Desert Conservation Area Plan 1980, as amended

The proposed transmission line corridor and the proposed access road for the Proposed Action are 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)." Section 501(a)(6) states, "roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System; " The proposed transmission lines and access road portion within BLM lands would be considered an allowed use as they would be located within a designated utility corridor (Utility Corridor "N").

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

The ACEC Management Plan allows for the "traversing of the ACEC by proposed transmission lines and associated facilities if environmental analysis demonstrates that it is environmentally sound to do so." 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 impacts 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 B1, B3, B4 and B5 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, with the implementation of Mitigation Measures B1, B3, B4 and B5 no impact under CEQA is identified for this issue area.

Compatibility with Adjacent Uses

The solar energy facility portion of the project site is not close to 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 three existing transmission lines. The proposed access road is located along an existing dirt road used for vehicular access. 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 not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated and used for utility corridors. Development and operation of Alternative 1-Alternative Transmission Line Corridor would not divide a community as no established community exists within, or in the surrounding area of the site and the project would not physically divide a community. Additionally, as discussed in Section 4.8 of this EIR/EA, no physical impact, such as noise which could conflict with adjacent uses, has been identified with Alternative 1-Alternative Transmission Line Corridor. Therefore, this issue is not considered a significant impact under CEQA.

B. Existing Land Use Plans, Policies and Regulations

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

Federal Land Management Policy Act, 1976

Similar to the Proposed Action, the transmission line corridor proposed under Alternative 1-Alternative Transmission Line Corridor would be consistent with this provision because the proposed transmission corridor would be located immediately adjacent to three existing electrical transmission line corridors through BLM lands and the access road is an existing dirt road within the portion that traverses BLM lands. The solar energy facility and a portion of the access road are on privately-owned land and is therefore not subject to the FLMPA. For these reasons, Alternative 1-Alternative Transmission Line Corridor would not conflict with the FLMPA. Therefore, Alternative 1- Alternative Transmission Line Corridor's effect is not considered a significant impact under CEQA.

California Desert Conservation Area Plan 1980, as amended

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

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

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

County of Imperial General Plan

Similar to the Proposed Action, the County's General Plan applies to the solar energy facility portion and the portion of the access road in private lands of Alternative 1-Alternative Transmission Line Corridor. These components are located within the jurisdiction of the County of Imperial. The remaining portion of the site (i.e. transmission line corridor and a portion of the access road) 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 and access road within private lands of the Alternative 1-Alternative Transmission Line Corridor would require issuance of a CUP (CUP#10-0011) and an environmental analysis. No General Plan land use amendment would be required for construction and operation of solar facility, including the proposed access road.

Table 4.2-1 provides an analysis of the proposed solar facility's consistency with applicable General Plan goals and policies. The proposed solar facility and access road is considered to be in substantial conformance with the goals and objectives as identified in Table 4.2-1. "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].

However, similar to the Proposed Action, the proposed solar facility portion of Alternative 1-Alternative Transmission Line Corridor would not be consistent with specific goals, policies and objectives associated with Agriculture. Section 4.9 Agricultural Resources of this EIR/EA provides a detailed consistency analysis with these goals and objectives. As proposed, the proposed solar facility portion of Alternative 1-Alternative Transmission Line Corridor would conflict with the County's Agricultural goals and objectives, and the implementation of Mitigation Measure AR1 is required pursuant to County policy (see Section 4.9 Agricultural Resources of this EIR/EA). Alternative 1-Alternative Transmission Line Corridor's conversion of agricultural lands as it affects recreational use at this location is addressed in Section 4.9 of this EIR/EA.

With implementation of Mitigation Measure AR1, which requires either payment of a mitigation fee, conservation easements, or a reclamation plan and bond to offset loss of agriculture pursuant to the County's approval of CUP #10-0011, Alternative 1-Alternative Transmission Line Corridor would not conflict with the County's General Plan. Therefore, the use of the project site as a proposed solar energy facility is considered less than significant impact under CEQA.

County of Imperial Land Use Ordinance

As discussed above for the Proposed Action, with the 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.

In addition, similar to the Proposed Action, as discussed above, the proposed solar energy facility and associated transmission towers on the solar energy facility site and within BLM lands for Alternative 1-Alternative Transmission Line Corridor have been determined to be consistent with the adopted ALUCP. In addition, based on a review of the 14 CFR Part 77.13 criteria, the project is not required to provide notice to the FAA, because the project does not meet the criteria requirements and is not located within in any airport compatibility zones. No significant impact under CEQA is identified for this issue area. Therefore, no significant impact under CEQA associated with the variance request has been identified. For these reasons, Alternative 1-Alternative Transmission Line Corridor would not result in a significant impact related to the County of Imperial Land Use Ordinance. Therefore, no significant impact under CEQA associated with the County's land use ordinance has been identified.

C. Conservation Plans

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

The Alternative 1-Alternative Transmission Line Corridor area is not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC § 1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code § 2800 et seq.). The County of Imperial is not within the boundary of any adopted HCP or

NCCP. The proposed transmission line corridor including the access road would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP under CEQA. Therefore, Alternative 1-Alternative Transmission Line Corridor would not conflict with any HCP or NCCP and would have no direct or indirect effect on any HCP or NCCP for CEQA purposes.

California Desert Conservation Area Plan 1980, as amended

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

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

Similar to the Proposed Action, proposed impacts to biological resources for Alternative 1-Alternative Transmission Line Corridor, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. As discussed in EIR/EA Section 4.12 Biological Resources, Mitigation Measures B3, B4, B5, and B10 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, similar to the Proposed Action, with the implementation of Mitigation Measures B3, B4, B5 and B10 no impact under CEQA for Alternative 1- Alternative Transmission Line Corridor is identified for this issue area.

Compatibility with Adjacent Uses

Similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would not result in a significant impact under CEQA associated with the project's compatibility with adjacent uses.

4.2.1.3 Alternative 2-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 2-Reduced Solar Energy Facility Site is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated, and used for utility corridors. Development and operation of the Proposed Action would not divide a community as no established community exists within, or in the surrounding area of the site and the project would not physically divide a community. Additionally, as discussed in Section 4.8, no physical impact such as noise that could conflict with adjacent uses has been identified with Alternative 2-Reduced Solar Energy Facility. 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-Reduced Solar Energy Facility Site would be consistent with this provision because the proposed transmission corridor would be located immediately adjacent to three existing electrical transmission line corridors through BLM lands and the access road is an existing dirt access road within the portion that traverses BLM lands. The solar energy facility and a portion of the access road are on privately-owned land and are therefore not subject to the FLMPA. For these reasons, Alternative 2-Reduced Solar Energy Facility Site would not conflict with the FLMPA. Therefore, Alternative 2-Reduced Solar Energy Facility Site's effect is not considered a significant impact under CEQA.

California Desert Conservation Area Plan 1980, as amended

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

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

Similar to the Proposed Action, proposed impacts to biological resources for Alternative 2-Reduced Solar Energy Facility Site, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the ACEC management plan with regard to sensitive biological resources and cultural resources. Alternative 2-Reduced Solar Energy Facility Site is designed to be consistent with the CDCA Plan, Yuha Desert Basin ACEC Management Plan, and FTHL RMS. As discussed in EIR/EA Section 4.12 Biological Resources, project design features and Mitigation Measures B3 (Burrowing Owl), B4 (General O&M Mitigation), B5 (FTHL Mitigation Measures) and B12 (Mitigation of Impacts to Vegetation Communities) (EIR/EA Section 4.12 Biological Resources) have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Additionally, Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered) are specifically designed to reduce potential direct and indirect impacts to cultural resources located within the Yuha Basin ACEC. Therefore, similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site's impact with respect to the Yuha ACEC and FTHL RMS is considered less than significant under CEQA.

County of Imperial General Plan

Similar to the Proposed Action, the County's General Plan applies to the solar energy facility portion and the portion of the access road in private lands of Alternative 2-Reduced Solar Energy Facility Site. These

components are located within the jurisdiction of the County of Imperial. The remaining portion of the site (i.e., transmission line corridor and a portion of the access road) 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 and access road within private lands of the Proposed Action would require issuance of a CUP (CUP#10-0011) and an environmental analysis. No General Plan land use amendment would be required for construction and operation of solar facility, including the proposed access road.

Table 4.2-1 provides an analysis of the proposed solar facility's consistency with applicable General Plan goals and policies. The proposed solar facility and access road are considered to be in substantial conformance with the goals and objectives as identified in Table 4.2-1. "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].

However, similar to the Proposed Action, the proposed solar facility portion of Alternative 2-Reduced Solar Energy Facility Site would not be consistent with specific goals, policies and objectives associated with Agriculture. Section 4.9 Agricultural Resources of this EIR/EA provides a detailed consistency analysis with these goals and objectives. As proposed, the proposed solar facility portion of Alternative 2-Reduced Solar Energy Facility Site would conflict with the County's Agricultural goals and objectives, and the implementation of Mitigation Measure AR1 is required pursuant to County policy (see Section 4.9 Agricultural Resources of this EIR/EA).

With implementation of Mitigation Measure AR1, which requires either payment of a mitigation fee, conservation easements, or a reclamation plan and bond to offset loss of agriculture pursuant to the County's approval of CUP #10-0011, Alternative 2-Reduced Solar Energy Facility would not conflict with the County's General Plan. Therefore, the use of the project site as a proposed solar energy facility is considered less than significant impact under CEQA.

County of Imperial Land Use Ordinance

As discussed above for the Proposed Action, with the 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-Reduced Solar Energy Facility Site. In addition, similar to the Proposed Action, as discussed above, the proposed solar energy facility and associated transmission towers on the solar energy facility site and within BLM lands for Alternative 2-Reduced Solar Energy Facility Site have been determined to be consistent with the adopted ALUCP. In addition, based on a review of the 14 CFR Part 77.13 criteria, the project is not required to provide notice to the FAA, because the project

does not meet the criteria requirements and is not located within in any airport compatibility zones. No significant impact under CEQA is identified for this issue area. Therefore, no significant impact under CEQA associated with the variance request has been identified.

For these reasons, Alternative 2-Reduced Solar Energy Facility would not result in a significant impact related to the County of Imperial Land Use Ordinance. Therefore, no significant impact under CEQA associated with the County's land use ordinance has been identified.

C. Conservation Plans

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

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

California Desert Conservation Area Plan 1980, as amended

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

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

Similar to the Proposed Action, proposed impacts to biological resources for Alternative 2-Reduced Solar Energy Facility Site, as discussed in EIR/EA Section 4.12 Biological Resources, is in conformance with the CDCA and maintains the integrity and intent of the conservation plan. As discussed in EIR/EA Section 4.12 Biological Resources, Mitigation Measures B3, B4, B5 and B12 have also been identified to address potential direct and indirect impacts to biological resources located within the ACEC. Therefore, similar to the Proposed Action, with the implementation of Mitigation Measures B3, B4, B5 and B12 no impact under for Alternative 2-Reduced Solar Energy Facility Site is identified for this issue area.

Compatibility with Adjacent Uses

Similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site would not result in a significant impact associated with the project's compatibility with adjacent uses.

4.2.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, no land use impacts under would occur from the Alternative 3-No Action/No Project Alternative.

4.2.1.5 CEQA Summary

With the implementation of Mitigation Measures AR1 (as identified in EIR/EA Section 4.9 Agricultural Resources); Mitigation Measures B1 (Proposed Action-Mitigation of Impacts to Vegetation Communities), B3 (Burrowing Owl), B4 (General O&M Mitigation), B5 (FTHL Mitigation Measures), B10 (Alternative 1-Mitigation of Impacts to Vegetation Communities), and B12 (Alternative 2-Mitigation of Impacts to Vegetation Communities) (EIR/EA Section 4.12 Biological Resources); and, Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered) (EIR/EA Section 4.7 Cultural Resources); the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, or Alternative 2-Reduced Solar Energy Facility Site would not result in a significant physical land use impact under CEQA. However, the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, or Alternative 2-Reduced Solar Energy Facility Site would not be consistent with General Plan goals and policies related to agricultural resources, as identified in Section 4.9 Agricultural Resources of this EIR/EA.

Implementation of the Alternative 3-No Action/No Project Alternative will not result in land use impacts under CEQA. Therefore, no mitigation is required.

4.2.2 NEPA Environmental Assessment Summary

4.2.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

The proposed transmission line will be located within an existing utility corridor (Corridor "N") as designated in the CDCA. There is no plan amendment or modification of the existing plan proposed for the Proposed Action. The corridor currently contains three transmission lines, access roads, and other facilities. The addition of another transmission line will not impact the management of the corridor; however considerations for placing the line in the corridor may affect future development. Since the corridors are finite in size and capacity there is a possibility of needing a future plan amendment to widen, expand, or relocate portions of the corridor. The indicators below summarize the impacts in relation to the existing setting and are employed as a comparison of impacts or possible scenarios that may affect a subsequent decision.

Based on the analysis provided above under Section 4.2.1.1, the Proposed Action is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated and used for utility corridors. Development and operation of the Proposed Action would not divide a community as no established community exists within, or surrounding the project site, nor would the Proposed Action physically divide a community (NEPA Indicator #1).

Based on the analysis provided above and as discussed in EIR/EA Section 4.2, the solar energy facility portion of the Proposed Action would directly conflict with the County's Agricultural goals and objectives, and the implementation of Mitigation Measure AR1, as identified in Section 4.9 of this EIR/EA, is required pursuant to County policy in order to reduce the impact. The proposed solar energy facility is an allowed use within the existing zoning of the site, subject to a conditional use permit. As part of the Proposed Action, a CUP application has been filed, which would allow the uses of the Proposed Action to occur within the A-2-R and A-3 zones. Although a variance would be required to allow the height of the transmission towers on the solar facility site, transmission towers are allowed within the existing zoning of the site and within the CDCA designated corridor "N" and will not require action by the County.

In addition, the proposed widening and use of the existing access road would require a right-of-way from the BLM and secured easements from property owners; however, use of this road for construction and maintenance would not prohibit or diminish the existing vehicular use of the road by others.

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

B. Alternative 1-Alternative Transmission Line Corridor

Based on the analysis provided above under Section 4.2.1.2, and A. above, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor's project site is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated and used as utility corridors. Development and operation of the Alternative 1-Alternative Transmission Line Corridor would not divide a community as no established community exists within, or surrounding the project site and the Alternative 1-Alternative Transmission Line Corridor would not physically divide a community (NEPA Indicator #1).

The transmission towers are proposed to be located within Utility Corridor "N" and no plan amendment would be required. In addition, the proposed widening and use of the existing access road would require a right of way from the BLM and secured easements from property owners; however, use of this road for construction and maintenance would not prohibit or diminish the existing vehicular use of the road by others.

As discussed above under Section 4.2.1.2, the portion of the Alternative 1-Alternative Transmission Line Corridor located within BLM lands is located entirely within the CDCA-designated Utility Corridor "N." The Alternative 1-Alternative Transmission Line Corridor is designed to be consistent with the CDCA Plan, Yuha Desert ACEC Management Plan, and FTHL RMS.

C. Alternative 2-Reduced Solar Energy Facility Site

Based on the analysis provided above under Section 4.2.1.3 and A. above, similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site's project site is not close to dense urban uses, rather it is generally surrounded by agricultural and BLM lands designated and used for utility corridors. Development and operation of the Alternative 2-Reduced Solar Energy Facility Site would not divide a community as no

established community exists within, or surrounding the project site and the Alternative 2-Reduced Solar Energy Facility Site would not physically divide a community (NEPA Indicator #1).

The transmission towers are proposed to be located within Utility Corridor "N" and no plan amendment would be required. In addition, the proposed widening and use of the existing access road would require a right of way from the BLM and secured easements from property owners; however, use of this road for construction and maintenance would not prohibit or diminish the existing vehicular use of the road by others.

As discussed above under Section 4.2.1.3, the portion of Alternative 2-Reduced Solar Energy Facility Site located within BLM lands is located entirely within the CDCA-designated Utility Corridor "N." The Alternative 2-Reduced Solar Energy Facility Site is designed to be consistent with the CDCA Plan, Yuha Desert ACEC Management Plan, and FTHL RMS.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.2.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect land use impacts would result from the Alternative 3-No Action/No Project Alternative.

4.2.3 Mitigation Measures and Residual Impacts

With the implementation of Mitigation Measures AR1 (EIR/EA Section 4.9 Agricultural Resources); Mitigation Measures B1 (Proposed Action-Mitigation of Impacts to Vegetation Communities), B3 (Burrowing Owl), B4 (General O&M Mitigation), B5 (FTHL Mitigation Measures), B10 (Alternative 1-Mitigation of Impacts to Vegetation Communities), and B12 (Alternative 2-Mitigation of Impacts to Vegetation Communities) (EIR/EA Section 4.12 Biological Resources); and, Mitigation Measures CR1 (Formal Testing and Evaluation Program), CR2 (Temporary Fencing), and CR3 (Notification of Unique Resources Encountered) (EIR/EA Section 4.7 Cultural Resources), land use impacts under CEQA associated with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site would be reduced to a level less than significant.

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

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

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

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

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

Indicator 4: *Result in inadequate emergency access;*

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

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

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

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 substantially fewer tips. The following describes the trip generations for the project.

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.

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

The construction workforce is expected to reach a peak of approximately 250 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 680 ADT with 271 AM peak hour trips (265 inbound and 6 outbound) and 280 PM peak hour trips (15 inbound and 265 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	500	250	0	0	250
Equipment Deliveries and Construction Truck Trips (with PCE)	180	15	6	15	15
Total Traffic During Peak Construction Period	680	265	6	15	265

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, 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.

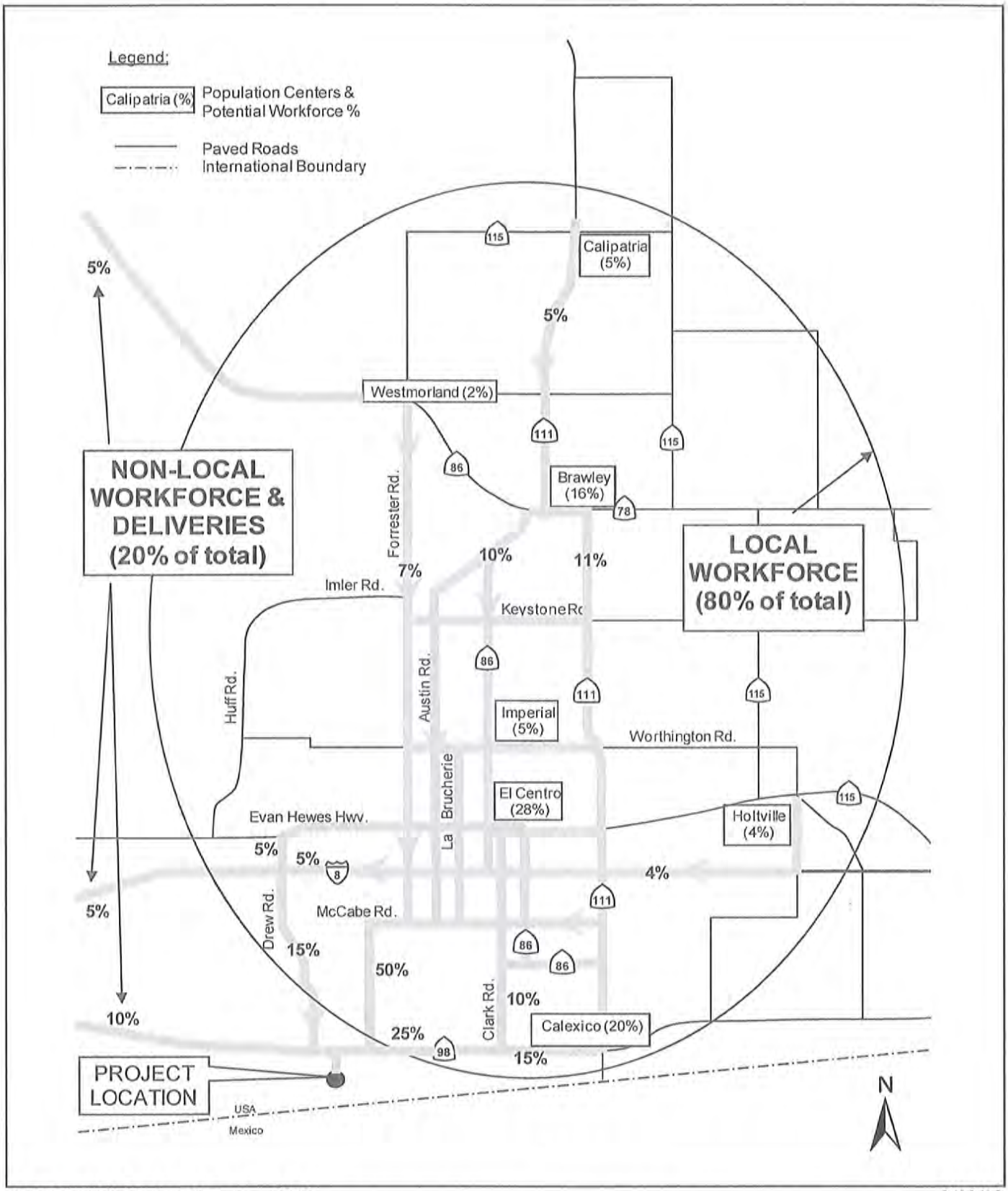
The opening year background volumes are based on increasing the existing Year 2010 volumes by an annual growth rate. Determination of the annual growth rate was based on guidelines defined in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised 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.

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 depicted in Figure 4.3-2. The trip assignment is depicted in Figure 4.3-3.



SOURCE: LOS Engineering, Inc., 2010

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Regional Construction Distribution (Drew Interchange Open)

FIGURE 4.3-1

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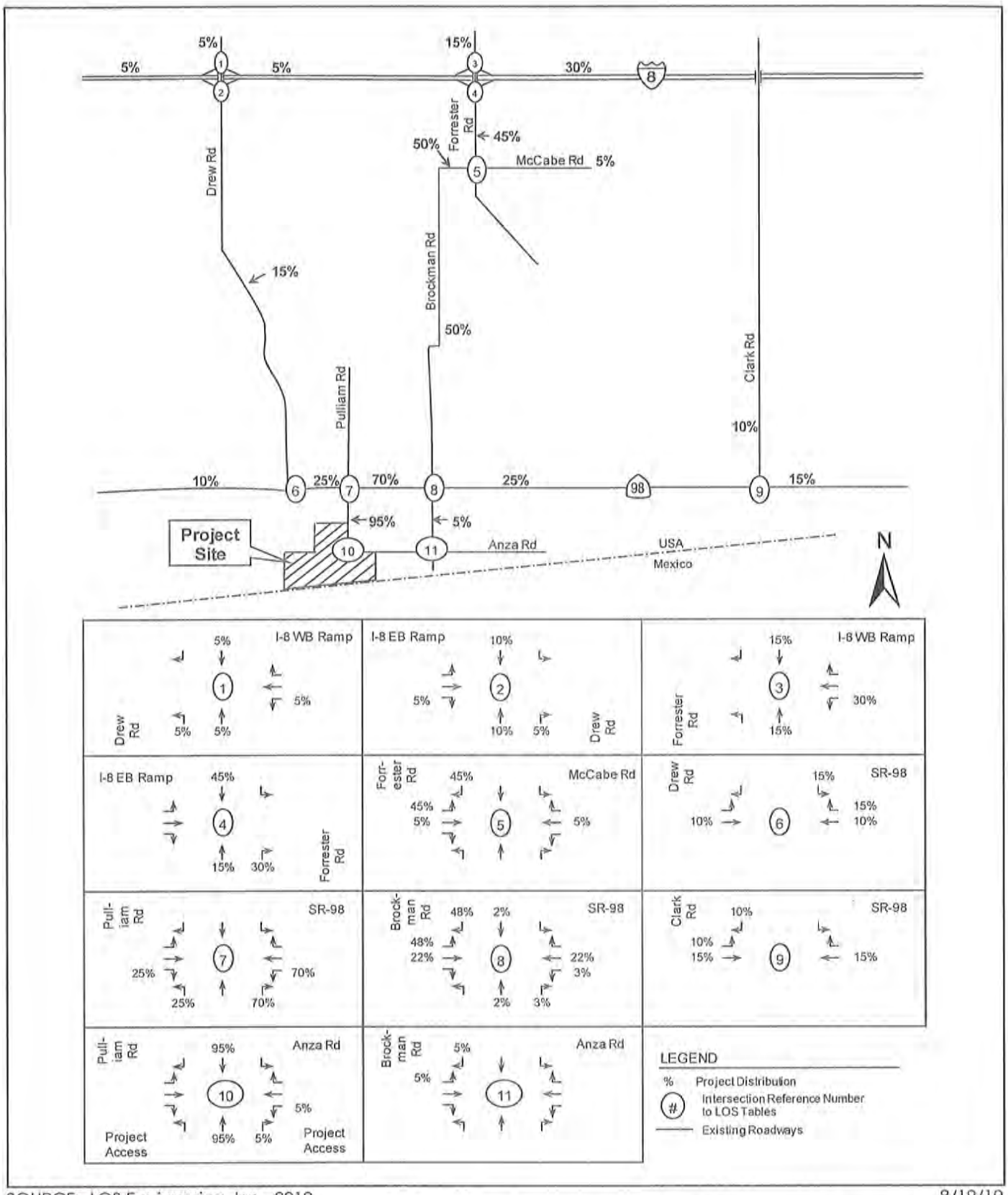

SOURCE: LOS Engineering, Inc., 2010

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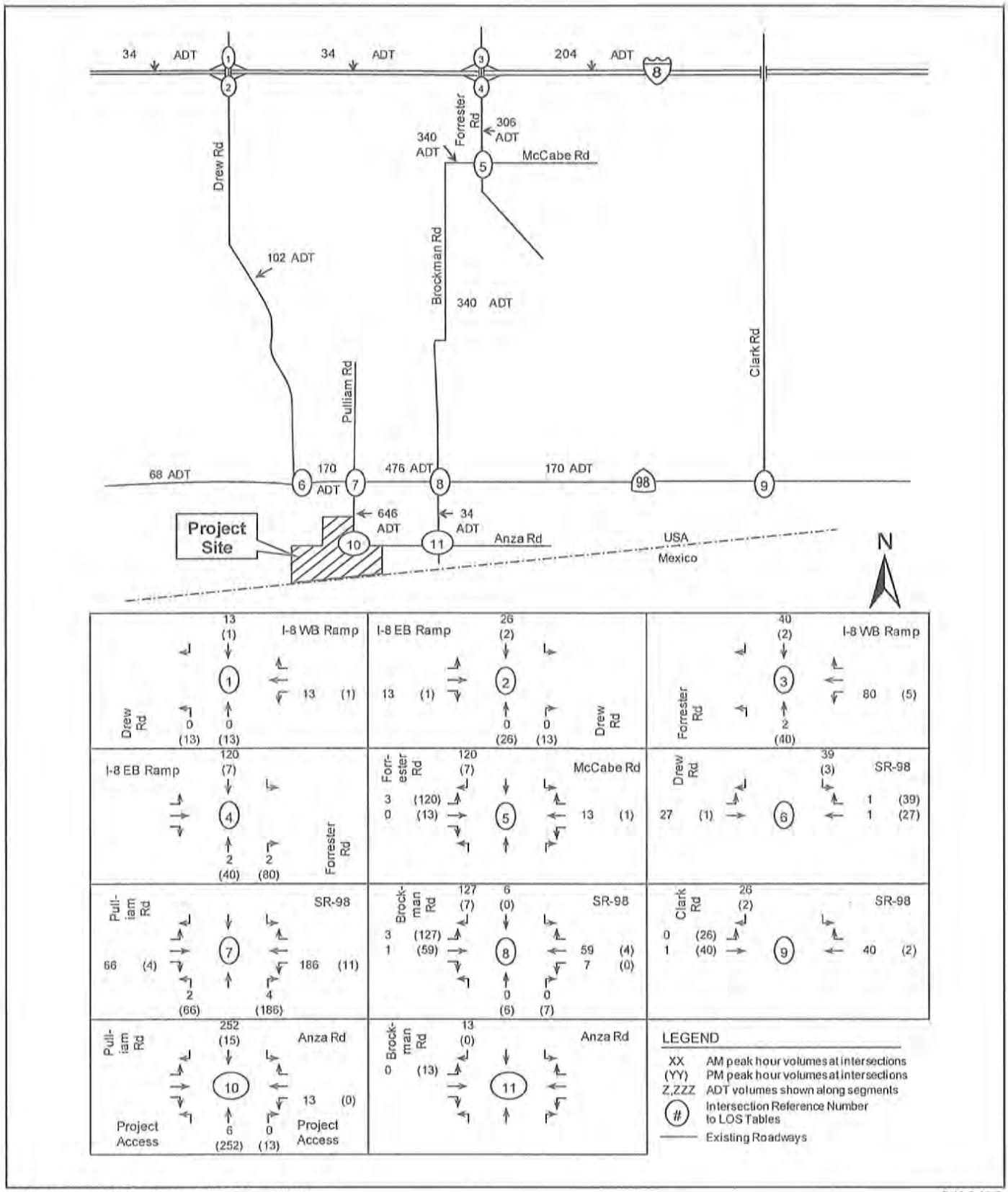
Local Construction Distribution (Drew Interchange Open)

FIGURE 4.3-2

F:\projects\1009 Imperial Solar South\1st Screencheck EIR_EA\Chapter 4\Section 3\Figure 4.3-2 Local Con Dist.ai



SOURCE: LOS Engineering, Inc., 2010

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Construction Trip Assignment (Drew Interchange Open)

FIGURE 4.3-3

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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.

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 and 4.3-5. The trip assignment with the Drew Road interchange being temporarily closed is depicted in Figure 4.3-6.

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

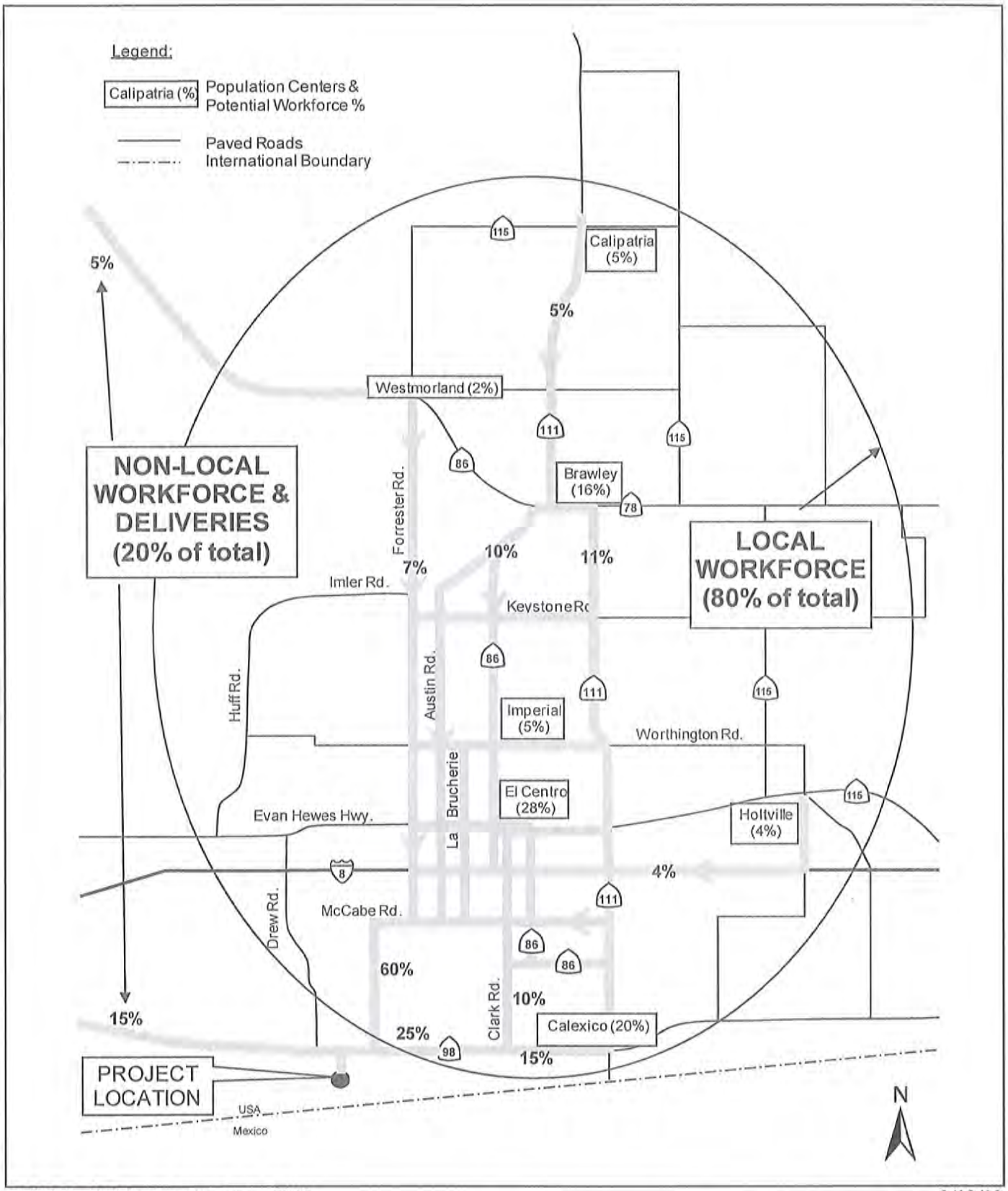
Indicator 1: *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

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

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

Year (2012) plus Project with Drew Road Interchange Open

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



SOURCE: LOS Engineering, Inc., 2010

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Regional Construction Distribution (Drew Interchange Closed)

FIGURE 4.3-4

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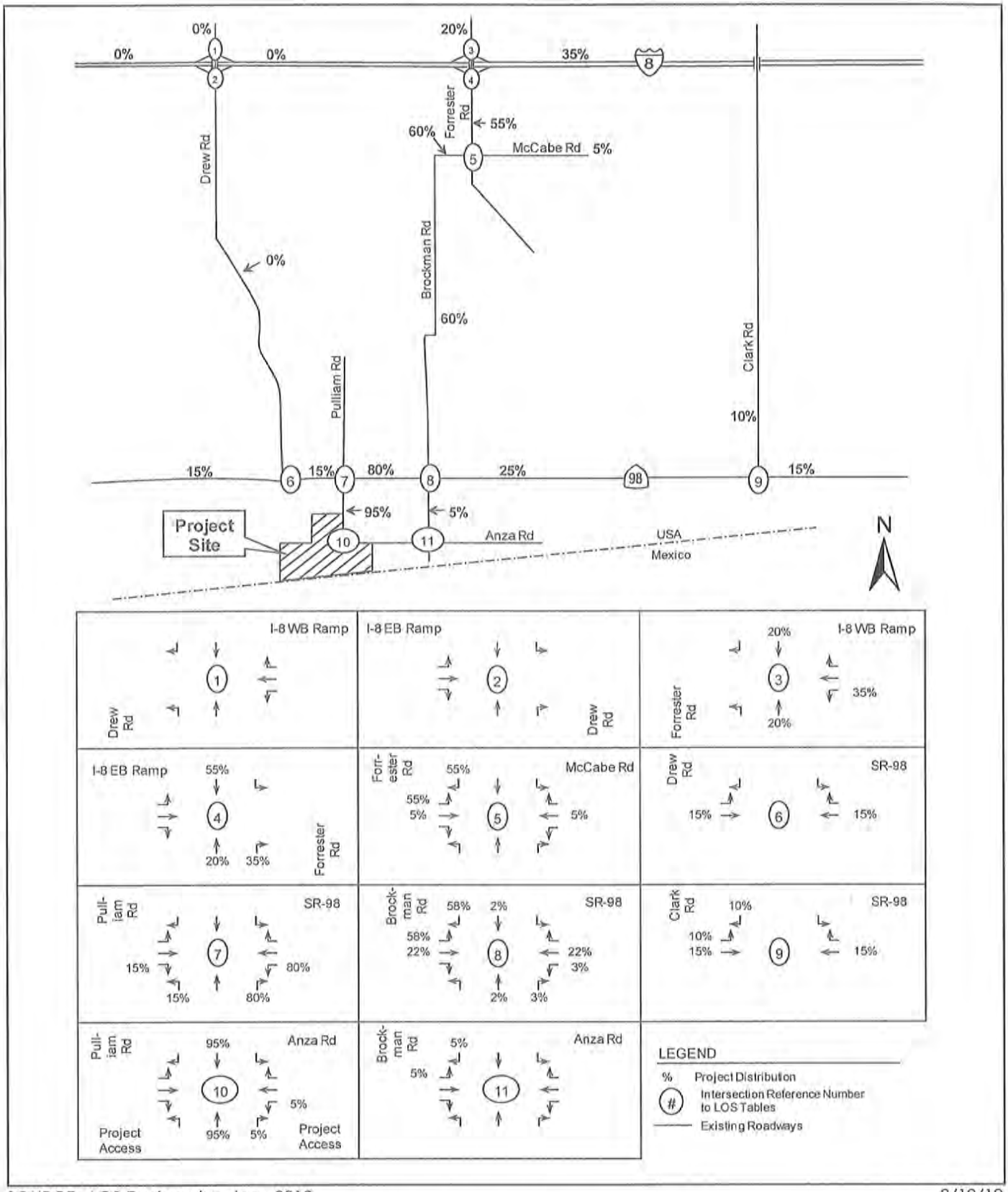

SOURCE: LOS Engineering, Inc., 2010

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Local Construction Distribution (Drew Interchange Closed)

FIGURE 4.3-5

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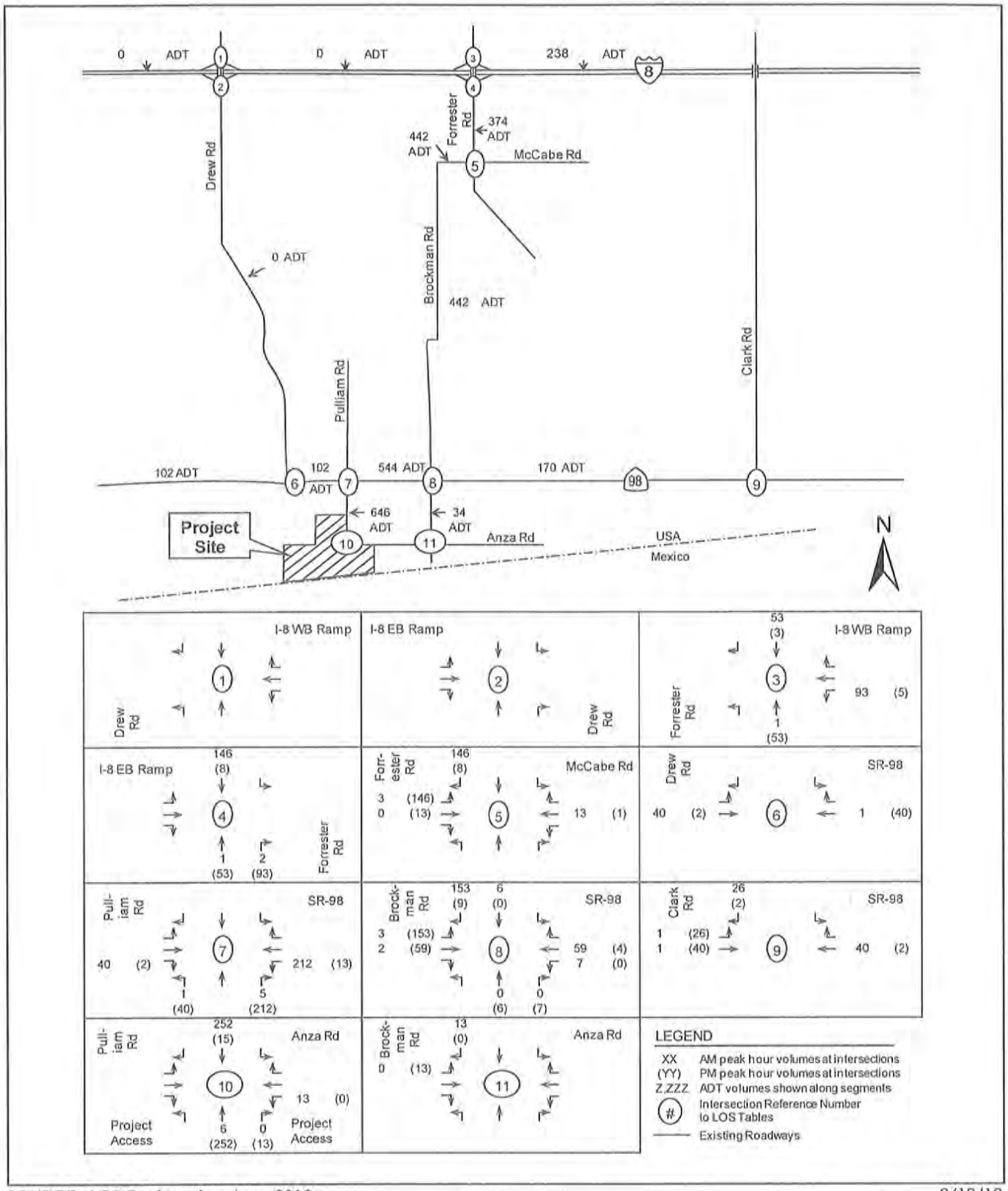

SOURCE: LOS Engineering, Inc., 2010

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Construction Trip Assignment (Drew Interchange Closed)

FIGURE 4.3-6

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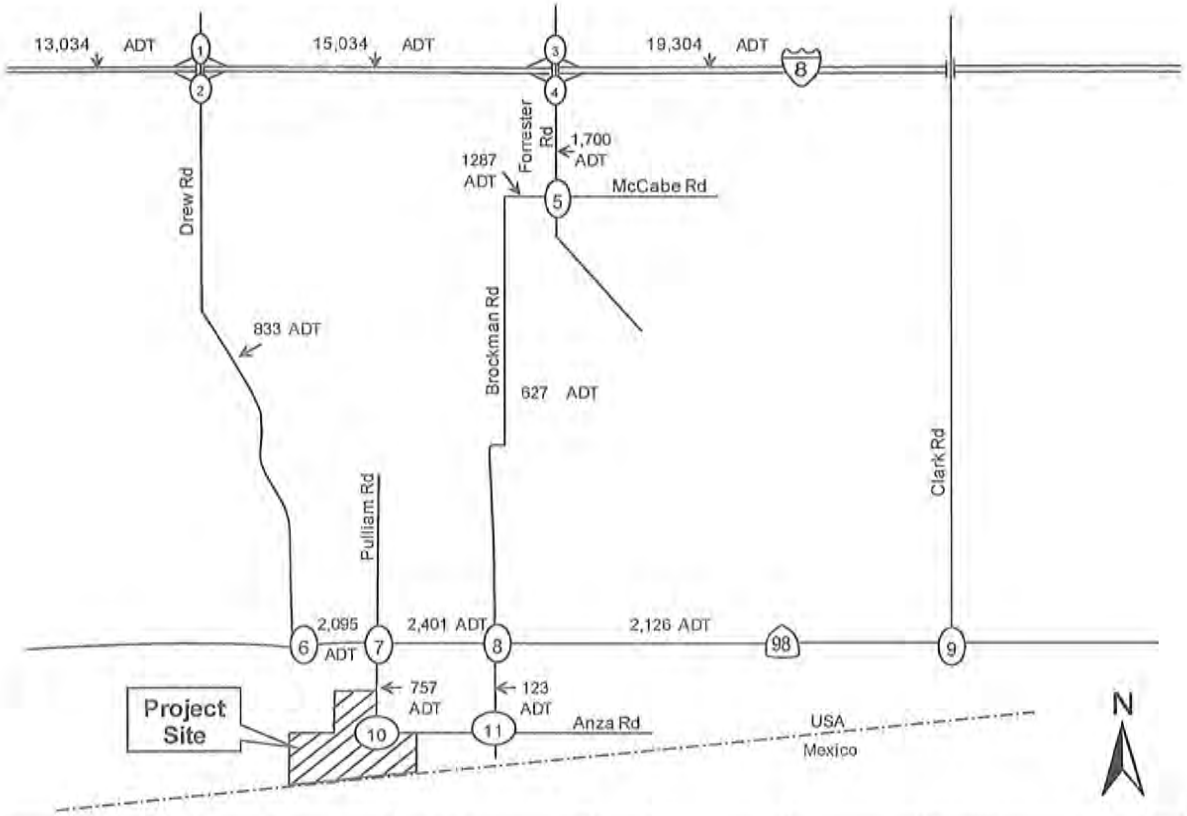

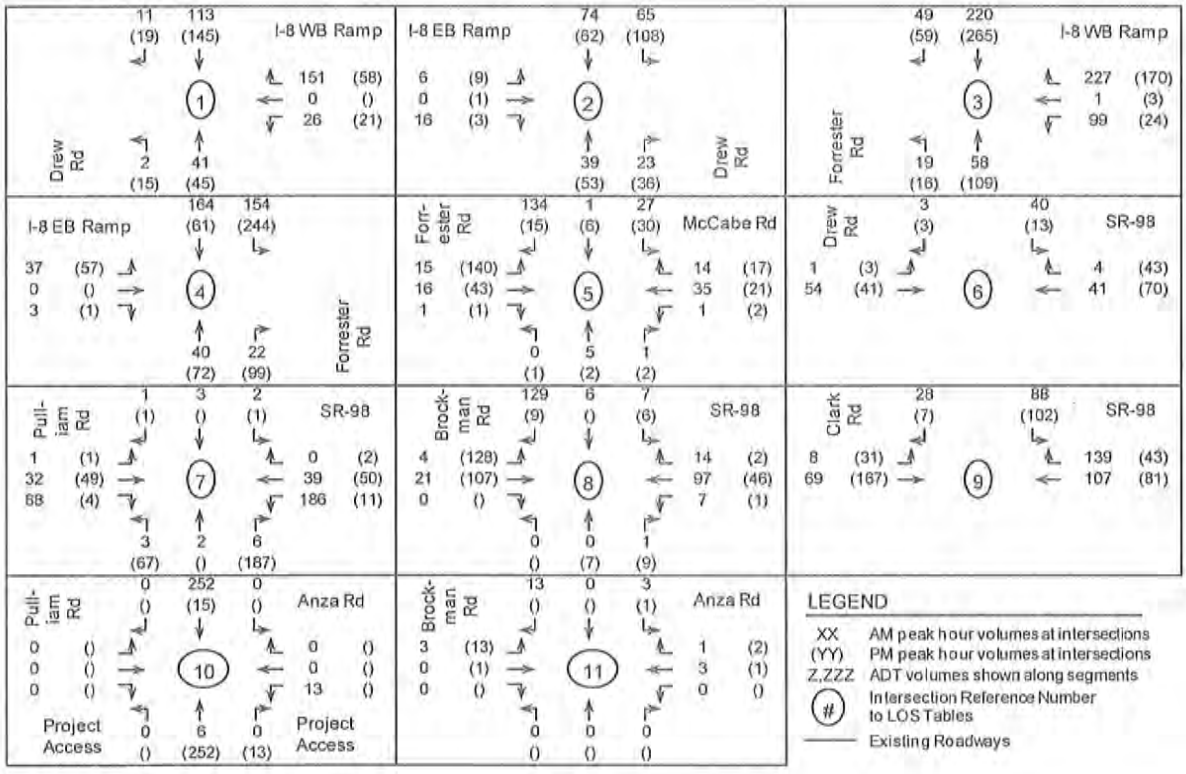

SOURCE: LOS Engineering, Inc., 2010

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Year 2012 + Project Volumes (Drew Interchange Open)

FIGURE 4.3-7

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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]
Drew Road at	Minor	9.2	A	9.3	A	0.1	No
I-8 WB Ramp	Leg	9.0	A	9.2	A	0.2	No
Drew Road at	Minor	9.7	A	9.7	A	0.0	No
I-8 WB Ramp	Leg	10.9	B	11.1	B	0.2	No
Drew Road at	Minor	9.9	A	10.6	B	0.7	No
I-8 EB Ramp	Leg	9.8	A	10.2	B	0.4	No
Forrester Road at	Minor	12.7	B	14.6	B	1.9	No
I-8 WB Ramp	Leg	17.8	C	20.6	C	2.8	No
Forrester Road at	Minor	9.4	A	9.5	A	0.1	No
McCabe Road	Leg	9.4	A	10.9	B	1.5	No
SR-98 at	Minor	8.6	A	9.2	A	0.6	No
Drew Road	Leg	9.0	A	9.3	A	0.3	No
SR-98 at	Minor	9.2	A	11.1	B	1.9	No
Pulliam Road	Leg	8.9	A	10.3	B	1.4	No
SR-98 at	Minor	8.9	A	9.7	A	0.8	No
Brockman Road	Leg	9.0	A	10.7	B	1.7	No
SR-98 at	Minor	10.5	B	10.7	B	0.2	No
Clark Road	Leg	10.8	B	11.9	B	1.1	No
Pulliam Road at	Minor	0.0	A	10.5	B	10.5	No
Anza Road	Leg	0.0	A	0.0	A	0.0	No
Brockman Road at	Minor	7.2	A	7.2	A	0.0	No
Anza Road	Leg	8.5	A	8.7	A	0.2	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?
Drew Road												
I-8 to SR-98	Prime Arterial (2U)	731	7,100	0.10	A	102	833	7,100	0.12	A	0.01	None
Brockman Road												
McCabe Rd to SR-98	Major Collector (2U)	287	7,100	0.04	A	340	627	7,100	0.09	A	0.05	None
SR-98 to Anza Rd	Not Listed (2U)	89	7,100	0.01	A	34	123	7,100	0.02	A	0.00	None
Forrester Road												
I-8 to McCabe Rd	Prime Arterial (2U)	1,394	7,100	0.20	A	306	1,700	7,100	0.24	A	0.04	None
McCabe Road												
Brockman Rd to Forrester Rd	Major Collector (2U)	947	7,100	0.13	A	340	1,287	7,100	0.18	A	0.05	None
Pulliam Road												
SR-98 to Anza Rd	Not Listed (2U)	111	7,100	0.02	A	646	757	7,100	0.11	A	0.09	None
SR-98												
Drew Rd to Pulliam Rd	State Highway (2U)	1,925	7,100	0.27	B	170	2,095	7,100	0.30	B	0.02	None
Pulliam Rd to Brockman Rd	State Highway (2U)	1,925	7,100	0.27	B	476	2,401	7,100	0.34	B	0.07	None
Brockman Rd to Clark Rd	State Highway (2U)	1,925	7,100	0.28	B	170	2,126	7,100	0.30	B	0.02	None

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 Dunawy 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	13	0	1	13	0	13	13	1	2	93	93	6
2012 + Project												
Peak Hour Volume	450	1,104	630	1,327	504	1,286	739	1,517	644	1,714	1,017	1,937
Volume to Capacity	0.096	0.235	0.134	0.282	0.107	0.274	0.157	0.323	0.137	0.365	0.216	0.412
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Increase in V/C	0.003	0.000	0.000	0.003	0.000	0.003	0.003	0.000	0.000	0.020	0.020	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).

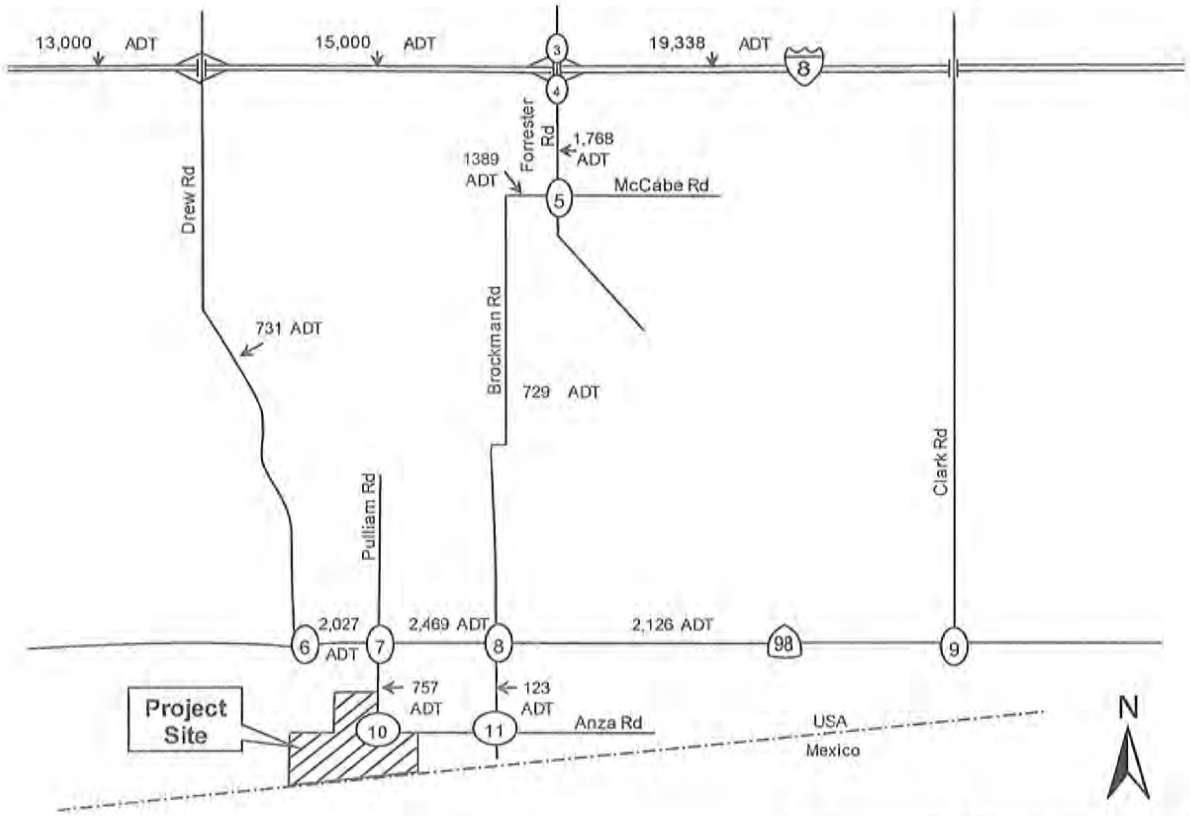
Source: LOS Engineering, Inc., 2010.

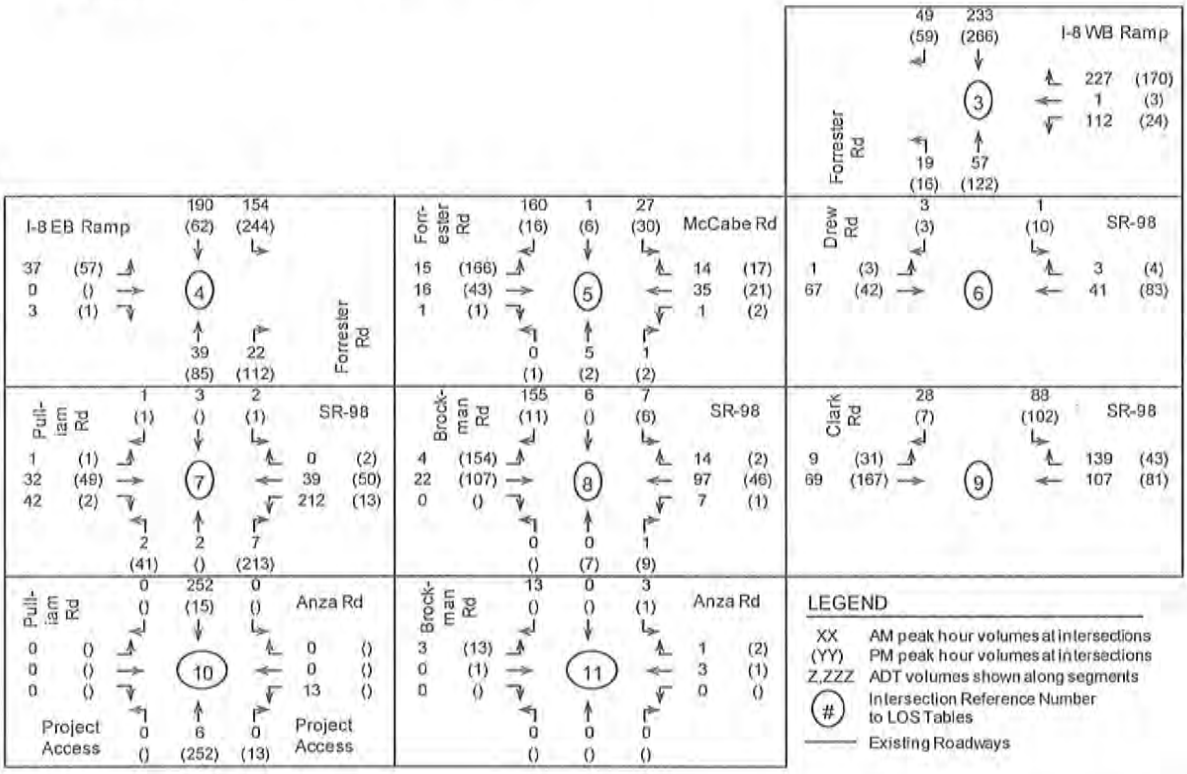
Under Year 2012 plus project conditions with Drew Road Interchange open, the study intersections and roadways were calculated to operate at LOS C or better. Therefore, no direct impacts under CEQA were identified under these conditions.

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.





SOURCE: LOS Engineering, Inc., 2010

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Year 2012 + Project Volumes (Drew Interchange Closed)

FIGURE 4.3-8

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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]
Drew Road at	Minor	Closed	Closed	Closed	Closed	N/A	No
I-8 WB Ramp	Leg	Closed	Closed	Closed	Closed	N/A	No
Drew Road at	Minor	Closed	Closed	Closed	Closed	N/A	No
I-8 WB Ramp	Leg	Closed	Closed	Closed	Closed	N/A	No
Drew Road at	Minor	9.9	A	10.9	B	1.0	No
I-8 EB Ramp	Leg	9.8	B	10.3	B	0.5	No
Forrester Road at	Minor	12.7	B	15.1	C	2.4	No
I-8 WB Ramp	Leg	17.8	C	21.4	C	3.6	No
Forrester Road at	Minor	9.4	A	9.5	A	0.1	No
McCabe Road	Leg	9.4	A	12.1	B	2.7	No
SR-98 at	Minor	8.6	A	8.7	A	0.1	No
Drew Road	Leg	9.0	A	9.2	A	0.2	No
SR-98 at	Minor	9.2	A	13.9	B	4.7	No
Pulliam Road	Leg	8.9	A	10.8	B	1.9	No
SR-98 at	Minor	8.9	A	9.9	A	1.0	No
Brockman Road	Leg	9.0	A	11.1	B	2.1	No
SR-98 at	Minor	10.5	B	11.0	B	0.5	No
Clark Road	Leg	10.8	B	11.9	B	1.1	No
Pulliam Road at	Minor	0.0	A	10.5	B	10.5	No
Anza Road	Leg	0.0	A	0.0	A	0.0	No
Brockman Road at	Minor	7.2	A	7.2	A	0.0	No
Anza Road	Leg	8.5	A	8.7	A	0.2	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)

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?
Drew Road												
I-8 to SR-98	Prime Arterial (2U)	731	7,100	0.10	A	0	731	7,100	0.10	A	0.00	None
Brockman Road												
McCabe Rd to SR-98	Major Collector (2U)	287	7,100	0.04	A	442	729	7,100	0.10	A	0.06	None
SR-98 to Anza Rd	Not Listed (2U)	89	7,100	0.01	A	34	123	7,100	0.02	A	0.00	None
Forrester Road												
I-8 to McCabe Rd	Prime Arterial (2U)	1,394	7,100	0.20	A	374	1,768	7,100	0.25	A	0.05	None
McCabe Road												
Brockman Rd to Forrester Rd	Major Collector (2U)	947	7,100	0.13	A	442	1,389	7,100	0.20	A	0.06	None
Pulliam Road												
SR-98 to Anza Rd	Not Listed (2U)	111	7,100	0.02	A	646	757	7,100	0.11	A	0.09	None
SR-98												
Drew Rd to Pulliam Rd	State Highway (2U)	1,925	7,100	0.27	B	102	2,027	7,100	0.29	B	0.01	None
Pulliam Rd to Brockman Rd	State Highway (2U)	1,925	7,100	0.27	B	544	2,469	7,100	0.35	B	0.08	None
Brockman Rd to Clark Rd	State Highway (2U)	1,925	7,100	0.28	B	170	2,126	7,100	0.30	B	0.02	None

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 Dunawy 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	0	0	0	0	0	0	0	0	2	93	93	5
2012 + Project												
Peak Hour Volume	437	1,104	629	1,314	504	1,273	726	1,516	644	1,714	1,017	1,936
Volume to Capacity	0.093	0.235	0.134	0.280	0.107	0.271	0.154	0.323	0.137	0.365	0.216	0.412
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Increase in V/C	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	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.

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

G. Emergency Access

Indicator 4: Result in inadequate emergency access.

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

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

During the construction phase of the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers. Sufficient parking would be available on-site at the construction staging areas. The project will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project would not result in inadequate parking capacity and no significant 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 project would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation and no significant 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 250 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 680 ADT with 271 AM peak hour trips (265 inbound and 6 outbound) and 280 PM peak hour trips (15 inbound and 265 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

This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 open for travel. 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

This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 closed for travel. 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 significant impact under CEQA is identified for this issue area.

G. Emergency Access

Indicator 4: *Result in inadequate emergency access.*

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

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, the project under Alternative 1-Alternative Transmission Line Corridor will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building. This on-site parking area will provide an adequate amount of parking for the employees of the project. Therefore, the project under Alternative 1-Alternative Transmission Line Corridor would not result in inadequate parking capacity and no significant 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 significant impact under CEQA is identified for this issue area.

4.3.1.3 Alternative 2- Reduced Solar Energy Facility Site

A. Project Trip Generation

The trip generation associated with Alternative 2-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 2-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 250 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 680 ADT with 271 AM peak hour trips (265 inbound and 6 outbound) and 280 PM peak hour trips (15 inbound and 265 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-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

This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 open for travel. 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

This scenario analyzes the anticipated project traffic added onto the Year 2012 conditions with Drew Road around I-8 closed for travel. 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-Reduced Solar Energy Facility Site would not change the existing surrounding circulation network. As such, Alternative 2-Reduced Solar Energy Facility Site will not substantially increase hazards due to a design feature. Therefore, no significant impact under CEQA is identified for this issue area.

G. Emergency Access

Indicator 4: *Result in inadequate emergency access.*

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel. On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code. In addition, the project site is located in a rural agricultural area and would not block or close any

emergency access points that would impact emergency access to other nearby areas. Thus, the project under Alternative 2-Reduced Solar Energy Facility Site will not result in inadequate emergency access and no significant impact under CEQA is identified for this issue area.

H. Parking Capacity

Indicator 5: Result in inadequate parking capacity.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, the project under Alternative 2-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 2-Reduced Solar Energy Facility Site would not result in inadequate parking capacity and no significant 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-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 significant impact under CEQA is identified for this issue area.

4.3.1.4 Alternative 3- No Action/No Project Alternative

The project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects to transportation/circulation from the Alternative 3-No Action/No Project Alternative.

4.3.1.5 CEQA Summary

Based on the analysis provided above, the Proposed Action, Alternative 1- Alternative Transmission Line Corridor, and Alternative 2 - Reduced Solar Energy Facility Site will not result in direct transportation/circulation impacts. Therefore, no mitigation is required. Please refer to Section 6.0 Cumulative Impacts regarding cumulative traffic impacts and required mitigation.

Alternative 3-No Action/No Project Alternative will not result in direct transportation/circulation impacts. Therefore, no mitigation is required.

4.3.2 NEPA Environmental Assessment Summary

4.3.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the information provided above, for the project related traffic under the Proposed Action, the study intersections and roadways will operate at LOS C or better for the two scenarios: Year 2012 plus project conditions with Drew Road Interchange open; and Year 2012 conditions with Drew Road around I-8 closed for travel (NEPA Indicators #1 and #2).

The Proposed Action does not include hazardous design features that would change the existing circulation network (NEPA Indicator #3). As such, the Proposed Action design would not result in sharp curves, hazardous intersections or other hazardous design features within the existing circulation network.

The proposed circulation plan for the project site will be required to provide emergency access points and safe vehicular travel (NEPA Indicator #4). On-site circulation of emergency vehicles is subject to site plan review by local agencies (Imperial County, in this case) and the standards of the Uniform Fire Code and California Building Code.

As stated in the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, implementation of the Proposed Action will require approximately four fulltime personnel for operations and maintenance. The project site will be staffed with a security guard 24 hours per day, seven days a week. On-site parking would be accommodated by a gravel and visitor parking area located adjacent to the Operations & Maintenance building (NEPA Indicator #5). This on-site parking area will provide an adequate amount of parking for the employees of the project.

Implementation of the Proposed Action would not change the existing surrounding circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation (NEPA Indicator #6).

B. Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, project related traffic under Alternative 1-Alternative Transmission Line Corridor would operate at LOS C or better for the study intersections and roadways under the two scenarios: Year 2012 plus project conditions with Drew Road Interchange open; and Year 2012 conditions with Drew Road around I-8 closed for travel (NEPA Indicators #1 and #2).

As stated in the Proposed Action, Alternative 1-Alternative Transmission Line Corridor does not include hazardous design features that would change the existing circulation network (NEPA Indicator #3). As such, construction of Alternative 1-Alternative Transmission Line Corridor design would not result in sharp curves, hazardous intersections or other hazardous design features within the existing circulation network.

Similar to the Proposed Action, the proposed circulation plan for Alternative 1-Alternative Transmission Line Corridor will be required to provide emergency access points and safe vehicular travel (NEPA Indicator #4). 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.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, implementation of 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 (NEPA Indicator #5). This on-site parking area will provide an adequate amount of parking for the employees of the project.

Implementation of Alternative 1-Alternative Transmission Line Corridor would not change the existing circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation (NEPA Indicator #6).

C. Alternative 2-Reduced Solar Energy Facility Site

Similar to the Proposed Action, project related traffic under Alternative 2-Reduced Solar Energy Facility Site would operate at LOS C or better for the study intersections and roadways under the two scenarios: Year 2012 plus project conditions with Drew Road Interchange open; and Year 2012 conditions with Drew Road around I-8 closed for travel (NEPA Indicators #1 and #2).

As stated in the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site does not include hazardous design features that would change the existing circulation network (NEPA Indicator #3). As such, construction of Alternative 2-Reduced Solar Energy Facility Site design would not result in sharp curves, hazardous intersections or other hazardous design features within the existing circulation network.

Similar to the Proposed Action, the proposed circulation plan for Alternative 2-Reduced Solar Energy Facility Site will be required to provide emergency access points and safe vehicular travel (NEPA Indicator #4). 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.

Similar to the Proposed Action, the construction workforce is expected to reach a peak of approximately 250 workers during the construction phase. Sufficient parking would be available on-site at the construction staging areas. In addition, implementation of Alternative 2-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 (NEPA Indicator #5). This on-site parking area will provide an adequate amount of parking for the employees of the project.

Implementation of Alternative 2-Reduced Solar Energy Facility Site would not change the existing circulation network. Therefore, it will not conflict with adopted policies, plans, or programs supporting alternative transportation (NEPA Indicator #6).

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.3.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect effects on the circulation network from the Alternative 3-No Action/No Project Alternative.

4.3.3 Mitigation Measures and Residual Impacts

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

4.3.3.1 Impact Analysis of Mitigation Measures

No mitigation is proposed; therefore, no impacts would result from proposed mitigation measures.

4.3.3.2 Residual Impact Analysis of Mitigation Measures

No mitigation is proposed; therefore no residual impacts would result.

4.4 Air Quality

Information contained in this section is summarized from the *Construction Air Quality Conformity Assessment, Imperial Solar Energy Center South, Imperial County, California* prepared by Investigative Science and Engineering, Inc. (ISE) (August 17, 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, an Air Quality impact would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-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; and,*

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

NEPA Methodology

Evaluation of potential air quality impacts of the Proposed Action was based on aforementioned report for Construction Air Quality. Air Quality impacts are evaluated based on the impacts to the air basin and any potential conflict with the State Implementation Plan.

Potential Air Quality impacts (specifically during construction activities) are usually the result of impacts from grading and construction activities. Operational Air Quality 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, land use, and biological and natural resources, that would result from the project's construction and operation.

ICAPCD Thresholds of Significance

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

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

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

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 private land portion of the Proposed Action would therefore fall under the stricter ICAPCD guidelines, while the transmission line and access road on public lands would follow the EPA's standards and the requirements of NEPA.

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.

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

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 CEQA significance of a Proposed Action. In the event that the emissions exceed the established thresholds, air dispersion modeling may be conducted to assess whether the Proposed Action results in an exceedance of an air quality standard. The County of Imperial has adopted this methodology.

The criteria used to evaluate air emissions associated with projects are based primarily on the combustion emissions generated by motor vehicles and area source emissions (paved and unpaved roads, construction projects, open areas, etc.). An air quality analysis performed by ISE (August 17, 2010) was used in the evaluation of construction and operational air quality impacts.

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

4.4.1.1 Proposed Action

A. Construction Impacts

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

Grading/Clearing/Hauling

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

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

As shown in Table 4.4-2, NO_x impacts are expected due to construction grading operations. NO_x emissions of 103.5 pounds per day would exceed ICAPCD's CEQA threshold of 55 pounds per day. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier 2+ equipment[2] to reduce NO_x emissions to below a CEQA level of significance. Table 4.4-3 identifies the predicted construction emissions with the Tier 2+ engine technology mitigation. With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day. Implementation of Mitigation Measures AQ1 and AQ2, which include use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

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

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.

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

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

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

Source: ISE, 2010.

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

Equipment	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (Hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Underground Utility Construction/Transmission Line Construction										
Track Backhoe	1	150	50	6	3.7	6.8	0.9	0.1	0.1	1.4
Loader/Drill	1	150	50	6	3.7	6.8	0.9	0.1	0.1	1.4
Water Truck	2	200	50	4	4.6	12.2	1.6	0.2	0.2	1.6
Concrete Truck	8	250	25	0.5	1.4	3.8	0.5	0.1	0.1	0.5
Dump/Haul Trucks	2	300	45	4	6.2	16.4	2.2	0.3	0.3	2.2
Total for this Construction Task					*19.6*	*46.0*	*6.1*	*0.8*	*0.8*	*7.1*
Solar 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 mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction. Measures to minimize air quality emissions include the replacement of fossil fueled equipment with electrically driven equivalents and keeping vehicles well maintained to prevent leaks and minimize emissions.

Earthwork Activities

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

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

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

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

Out of the total quantity identified above, it is estimated that roughly 80% of the working weight would be capable of generating PM_{10} because a minimal amount of rock is present on the site. Thus, for the purposes of analysis, the working weight of earthwork material capable of generating some amount of PM_{10} would be 260,000 tons. Thus, the average mass grading earthwork movement per day over the total 340 working days would be 764.7 tons/day. With surface wetting a minimum of three times per day during all phases of earthwork operations, a control efficiency of 34% to 68% reduction in fugitive dust can be applied per SCAQMD methodology (See Appendix C for calculations). A 34% reduction in fugitive dust would occur with minimal surface wetting. However, the project site would be fully wetted a minimum of three times per day during earthwork operations; thus, a 60% reduction in fugitive dust would be achieved. Assuming a median 60% control efficiency, due to the aforementioned watering yields, the project would generate a total fugitive dust generated load of 19.6 pounds per day. This level is well below the 150 pounds per day threshold established by the ICAPCD. Therefore, no significant impacts under CEQA are expected from construction grading earthwork particulate matter. The commensurate $PM_{2.5}$ level would be 4.1 pounds per day, which is also below the proposed threshold of significance of 55 pounds per day for this pollutant. Therefore, no significant 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 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. It should be noted that the 50 VMT during the earthwork and site preparation phases includes the use of the existing dirt access road. 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 and discretionary mitigation measures for construction emissions, which must be followed regardless of total construction emissions. These mitigation measures are identified in Section 4.4.2 Mitigation Measures as Mitigation Measure AQ2 and will further minimize PM_{10} 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.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

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

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

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

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. In addition, CdTe's physical properties, including its extremely low vapor pressure and high boiling and melting points, along with its insolubility in water, limit its mobility. Furthermore, the very thin layer of CdTe in PV modules is encapsulated between two protective sheets of glass. As a result, the risk of health or environmental exposure in fires, from accidental breakage, or from leaching is not considered significant under CEQA.

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

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

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

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

Diesel-Related Toxic Emissions

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

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

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

The Proposed Action has a maximum working area of roughly 39,334,680 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/m^2/second)
CO	29.5	0.1549	4.2381E-08
NO_x	46.0	0.2415	6.6085E-08
SO_x	9.8	0.0514	1.4079E-08
PM_{10}	1.1	0.0058	1.5803E-09
$PM_{2.5}$	1.1	0.0058	1.5803E-09

Source: ISE, 2010.

The expected combustion-fired construction emission concentrations based on the *SCREEN3* modeling for the Proposed Action are provided in Table 4.4-6. The *SCREEN3* methodology essentially applies to all diesel emissions over the project site and provides a worst-case assessment of the potential impacts to sensitive receptors. Although all stable criteria pollutants are provided, it should be noted that for cancer-risk potential, only PM_{10} is the single contributing factor. A detailed modeling methodology is provided in Appendix C1 of this EIR/EA. Based upon the model results, all criteria pollutants are estimated to be below the CARB-recommended level of one in a million per µg/m^3 (i.e., all risk levels less than 1.0). Given this, no carcinogenic impact potential associated with the Proposed Action is anticipated during grading operations.

TABLE 4.4-6
SCREEN3 Predicted Diesel-Fired Emission Concentrations

Criteria Pollutant	Pollutant Concentration (µg/m^3)	Pollutant Concentration (ppm)	Pollutant Risk Probability (percent risk per person for 70-year exposure)	Significant?
CO	4.17	0.0036	n/a	No
NO_x	6.50	0.0035	n/a	No
SO_x	1.39	0.0005	n/a	No
PM_{10}	0.16	--	0.005%	No
$PM_{2.5}$	0.14	--	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/m^3 @ 25 deg-C STP; NO_x: 1ppm = 1,880 ug/m^3 @ 25 deg-C STP; SO_x: 1ppm = 2,620 ug/m^3 @ 25 deg-C STP; PM_{10} and $PM_{2.5}$: 1ppm = 1 g/m^3 (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 0.16 µg/m^3 occurring at a distance of 1,563 meters (5,127 feet) from the project site. This pollutant concentration is far below the California Ambient Air Quality Standard (CAAQS) of 50 µg/m^3 established by the State for any given 24-hour exposure period.

Furthermore, the project generated construction PM_{10} level is expected to have a limited impact at a distance of 3.88 miles from the project site. No cumulative contribution of PM_{10} from the site is likely beyond this point.

The anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 0.14 µg/m^3, which are also below the Federal NAAQS 24-hour thresholds of 35 µg/m^3 (there are no State thresholds for this pollutant). No cumulative contribution of $PM_{2.5}$ from the site is likely beyond the aforementioned 3.88-mile radius cited above.

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

Odors

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

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

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

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

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

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

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

Vehicular Emission Levels

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

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

The Imperial Solar Energy Center South site is expected to have a worst-case construction trip generation level of 680 ADT based upon the cumulative trip generation produced for the Proposed Action. The average one-way construction trip length would be 15.0 miles. A median speed of 45 MPH was used, consistent with average values observed (i.e., combined highway and surface street traffic activity).

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

Aggregate Construction Emissions

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

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

The aggregate construction emission levels produced by the Proposed Action with no mitigation incorporated are identified in Table 4.4-8. As identified in Table 4.4-8, an aggregate emissions impact of NO_x would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline. NO_x aggregate emissions of 123.6 pounds/day would exceed ICAPCD's threshold of 55 pounds/day.

TABLE 4.4-7
Projected Mobile 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 Action @ 680 Net ADT							
Light Duty Autos (LDA)	469	33.67	4.95	0.05	0.11	0.1	1.10
Light Duty Trucks (LDT)	132	13.50	2.33	0.01	0.07	0.1	0.41
Medium Duty Trucks (MDT)	44	3.52	1.05	0.01	0.02	0.0	0.12
Heavy Duty Trucks (HDT)	32	3.46	11.63	0.02	0.36	0.4	0.55
Buses (UBUS)	0	0.00	0.00	0.00	0.00	0.0	0.00
Motorcycles (MCY)	3	3.23	0.17	0.00	0.00	0.0	0.29
Total	*680*	*57.4*	*20.1*	*0.1*	*0.6*	*0.6*	*2.5*
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)	57.4	20.1	0.1	0.6	0.6	2.5
Total	102.7	123.6	9.9	56.8	17.5	12.8
Significance Threshold (ICAPCD)	550	55	150	150	55	55

Source: ISE, 2010.

This is considered a significant impact under CEQA. However, as identified in Table 4.4-9, no aggregate emissions impacts are identified with mitigation incorporated into the project (i.e., 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 under CEQA.

As discussed in Section 3.4 of this EIR/EA, Imperial Valley is classified as in nonattainment for Federal and State PM_{10} standards. Aggregate construction PM_{10} emissions are less than 35% of the quantitative PM_{10} threshold. As such, the Proposed Action would not result in a cumulatively considerable net increase of PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Therefore, no significant impact under CEQA is identified for this issue area.

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)	57.4	20.1	0.1	0.6	0.6	2.5
Total	86.9	52.5	9.9	50.9	12.1	12.8
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 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 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.

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

C. Air Quality Plans

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

The Imperial County Air Quality Attainment Plan (ICAQAP) for the Salton Sea Air Basin (SSAB) and the SCAQMD's Air Quality Management Plan for Ozone (AQMP) (previously AQAP) are incorporated in the State Implementation Plan (SIP) for PM_{10}, which sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The ICAQAP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the ICAQAP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the ICAQAP to proposed emissions. The project must demonstrate compliance with all ICAPCD applicable rules and regulations as well as local land use plans and population projections.

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

D. Indirect Impacts

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

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

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

Source: Wolff, G. 2005.

4.4.1.2 Alternative 1- Alternative Transmission Line Corridor

A. Construction Impacts

Grading/Clearing/Hauling

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

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

contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

Earthwork Activities

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

Similar to the Proposed Action, no significant impact under CEQA would occur associated with fugitive dust emissions. Wet dust suppressions techniques would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne. The total fugitive dust generated would be below the thresholds established by the ICAPCD. However, ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions. These standard mitigation measures are identified in Mitigation Measure AQ2 and will further minimize air quality emissions during construction. With implementation of Mitigation Measure AQ2, construction related air quality impacts would be less than significant under CEQA.

Emissions Associated with Panel Manufacturing and Use

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

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

As provided in the analysis above, the peer reviewed studies and review of the information provided show that Alternative 1-Alternative Transmission Line Corridor would have impact similar to those described above.
As a result, there is substantial expert evidence that the Alternative 1-Alternative Transmission Line Corridor will not expose sensitive receptors to substantial pollutant concentration, and is therefore below a level of significance under CEQA.

Diesel-Related Toxic Emissions

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

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

The combustion-fired construction emission concentrations for Alternative 1-Alternative Transmission Line Corridor would be similar to those of the Proposed Action. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0). Therefore, under CEQA, the Alternative 1-Alternative Transmission Line Corridor would not violate any air quality standard or contribute substantially to an existing or projected air quality violation or expose sensitive

receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

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

Similar to the Proposed Action, the development of Alternative 1-Alternative Transmission Line Corridor could generate short-term odors. However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 1-Alternative Transmission Line Corridor. Therefore, no significant air quality impact under CEQA would 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 would reduce this impact to a level less than significant under CEQA.

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

B. Operational Impacts

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

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

Vehicle Emissions

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

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 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.

Pursuant to the ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee, or a combination of both. Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the

operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

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

The Imperial Solar Energy Center South 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- Reduced Solar Energy Facility Site

A. Construction Impacts

Grading/Clearing/Hauling

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

Similar to the Proposed Action, a significant NO_x impact is expected during the construction grading operations phase if left unmitigated at Tier 0 for the project under Alternative 2-Reduced Solar Energy Facility Site. 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, which include use of Tier 2+ engine technology and compliance with the requirements contained within ICAPCD's Regulation VIII-Fugitive Dust Control Measures, would reduce this impact to a level less than significant under CEQA.

Earthwork Activities

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

Similar to the Proposed Action, no significant impact would occur associated with fugitive dust emissions for the project under Alternative 2-Reduced Solar Energy Facility Site. 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.

Emissions Associated with Panel Manufacturing and Use

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

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

Similar to the proposed action, Alternative 2- Reduced Solar Energy Facility Site would have impacts similar to the proposed action, with a reduction in the number of solar panels. This reduction would not affect the analysis of this Alternative in comparison with the Proposed action and the impacts would be similar.

As a result, there is substantial expert evidence that the Alternative 2-Reduced Solar Energy Facility Site will not expose sensitive receptors to substantial pollutant concentrations, and is therefore below a level of significance under CEQA.

Diesel-Related Toxic Emissions

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

Indicator 3: Expose sensitive receptors to substantial pollutant concentrations.

The combustion-fired construction emission concentrations for Alternative 2-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 2-Reduced Solar Energy Facility Site would not violate any air quality standard or

contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project area.

Odors

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

Similar to the Proposed Action, the development of the project under Alternative 2-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 1-Alternative Transmission Line Corridor. Therefore, no significant air quality impact under CEQA would 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-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 2-Reduced Solar Energy Facility Site would be similar to those of the Proposed Action. An aggregate emissions exceedance of NO_x would occur if the Grading Emissions phase were to remain unmitigated at the Tier 0 Baseline. This is considered a significant impact under CEQA and would require mitigation using cleaner Tier2+ equipment to reduce NO_x emissions to below a level of significance. Implementation of Mitigation Measures AQ1 and AQ2 would reduce this impact to a level less than significant under CEQA.

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

B. Operational Impacts

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

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

Vehicle Emissions

The operation of Alternative 2-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 2-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 2-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 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 pounds per day for the project under Alternative 2-Reduced Solar Energy Facility Site. The operational phase of the project under Alternative 2-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.

Pursuant to the ICAPCD's CEQA Handbook, Rule 310 (Operational Development Fee) would apply to the proposed Operation and Maintenance Building. Rule 310 provides the Air District with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout Imperial County and incorporated cities. Pursuant to Rule 310, all project proponents are required to provide off-site mitigation or pay an operational development fee, or a combination of both. Implementation of Mitigation Measure AQ3 would ensure that emissions produced from the

operation of the Operation and Maintenance Building would not exceed air quality standards for PM_{10} and ozone.

C. Air Quality Plans

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

The Imperial Solar Energy Center South does not contain a residential component. As such, the project under Alternative 2-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 2-Reduced Solar Energy Facility Site'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 2-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 2-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.

4.4.1.4 Alternative 3- No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on air quality from the Alternative 3-No Action/No Project Alternative.

4.4.1.5 CEQA Summary

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

Implementation of Alternative 3-No Action/No Project Alternative will not result in air quality impacts under CEQA. Therefore, no mitigation is required.

4.4.2 NEPA Environmental Assessment Summary

4.4.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Construction

Grading/Clearing/Hauling

The construction activities under the Proposed Action would roughly be divided into two phases: grading/clearing/hauling and underground utilities/paving (or alternatively transmission line construction since equipment utilization would be nearly identical).

As analyzed above in Section 4.4.1, NO_x emissions of 103.5 pounds per day would exceed ICAPCD's threshold of 55 pounds per day (NEPA Indicators #1 and #2). ICAPCD would require mitigation using cleaner Tier 2+ equipment[3] to reduce NO_x emissions below the 55 pounds per day threshold. Table 4.4-3 above identifies the predicted construction emissions with the Tier 2+ engine technology mitigation. With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day. Implementation of Mitigation Measures AQ1 and AQ2 would reduce NOx emissions.

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

Earthwork Activities

Construction activities are also a source of fugitive dust emissions (PM_{10}) that may have a temporary effect on local air quality (NEPA Indicators #1 and #2). These emissions are typically associated with land clearing, excavating, and construction of a Proposed Action. Dust emissions can also occur when vehicles travel on paved and unpaved surfaces, and haul trucks lose material.

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

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

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

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

Indirect Emissions Associated with Panel Manufacturing and Use

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe (NEPA Indicator #3). As analyzed above, Cd can be safely sequestered in the form of CdTe in a PV module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. As mentioned previously, a 2005 peer review of three major published studies on the environmental profile of CdTe PV concluded "…CdTe used in PV is in an environmentally stable form that does not leak into the environment during normal use or foreseeable accidents, and therefore can be considered the environmentally safest current use of cadmium." This review also concluded "…Large scale use of CdTe photovoltaic modules does not present any risks to public health and the environment."

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

Diesel-Related Toxic Emissions

The visible emissions in diesel exhaust are known as particulate matter (PM). In 1998, California identified diesel exhaust particulate matter as a toxic air contaminant based on its potential to cause cancer, premature death, and other health problems. Diesel engines also contribute to California's fine particulate matter (PM2.5) air quality problems (NEPA Indicators #1 and #2). Typically, worst-case daily particulate matter pollutant levels from construction equipment occur during the rough grading phase. These emissions are assumed to occur over any given 24-hour day (thereby providing an upper bound of expected emission concentrations) and direct comparison with CAAQS standards.

The Proposed Action has a maximum working area of roughly 39,334,680 square-feet based upon the Proposed Action's site plan. Based upon the onsite emission levels identified above, Table 4.4-5 provides the aggregate Tier 2+ mitigated emission rates for various criteria pollutants in grams per second and grams per square-meter (m^2) per second (required as the input parameters for the diesel emissions over this working area) and provides a worst-case assessment of the effects to sensitive receptors (NEPA Indicator #3). The expected combustion-fired construction emission concentrations based on the *SCREEN3* modeling for the Proposed Action are provided in Table 4.4-6 above. The *SCREEN3* methodology essentially applies to all diesel emissions over the project site and provides a worst-case assessment of the potential impacts to sensitive receptors. All criteria pollutants are estimated to be below the CARB-recommended level of one in a million per $\mu g/m^3$ (i.e., all risk levels less than 1.0).

The analysis provided in the *Construction Air Quality Conformity Assessment* prepared by ISE (2010) identified a worst-case PM_{10} level of 0.16 $\mu g/m^3$ occurring at a distance of 1,563 meters (5,127 feet) from the project site. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period. Additionally, the anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 0.14 $\mu g/m^3$, which are also below the Federal NAAQS 24-hour thresholds of 35 $\mu g/m^3$ (there are no State thresholds for this pollutant). While there would still be an impact to Air Quality based on the emissions mentioned above, these are short-term impacts that would be greatly reduced via the required mitigation measures.

Odors

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

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

Vehicular Emission Levels

The Proposed Action is expected to have a worst-case construction trip generation level of 680 ADT based upon the cumulative trip generation produced for the Proposed Action. The average one-way construction trip length would be 15.0 miles. A median speed of 45 MPH was used, consistent with average values observed (i.e., combined highway and surface street traffic activity).

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

Aggregate Construction Emissions

The aggregate construction emission levels produced by the Proposed Action with no mitigation incorporated are identified in Table 4.4-8 above. As identified in Table 4.4-8, an aggregate emissions exceedance of NO_x would occur if the grading emissions phase were to remain unmitigated at the Tier 0 Baseline. NO_x aggregate emissions of 123.6 pounds/day would exceed ICAPCD's threshold of 55 pounds/day. However, as identified in Table 4.4-9, no substantial aggregate emissions impacts are identified with mitigation incorporated into the project (i.e., Tier 2+ technology).

Operational Emissions

Vehicle Emissions

BRG Consulting, Inc. calculated operational vehicle emissions using the air quality modeling software URBEMIS. URBEMIS is tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. Motor vehicles (mobile emissions) are the primary source of emissions associated with the Proposed Action (NEPA Indicators #1 and #2). Operational vehicle emissions were calculated using a vehicle trip rate of 15 vehicle trips per day. Projected air emissions for each criteria pollutant are calculated below 2.0 pounds per day.

Energy Consumption

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

During the operational phase of the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 pounds per day. The operational phase of the Proposed Action would not result in a considerable increase of criteria pollutants due to the nature of the project. Because the solar generating facility does not burn fossil fuels, it will eliminate emissions of criteria pollutants that would have otherwise originated from fossil-based electricity production (NEPA Indicators #1 and #2).

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

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

Air Quality Plans

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

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

Indirect Impacts

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

B Alternative 1- Alternative Transmission Line Corridor

Construction Impacts

Grading/Clearing/Hauling

Similar to the Proposed Action, implementation of Alternative 1-Alternative Transmission Line Corridor would result in NO_x emissions that would exceed ICAPCD's threshold of 55 pounds per day (NEPA Indicators #1 and #2). As described above, ICAPCD requires mitigation using cleaner Tier 2+ equipment[4] to reduce NO_x emissions below the 55 pounds per day threshold. With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day.

Earthwork Activities

Similar to the Proposed Action, implementation of Alternative 1-Alternative Transmission Line Corridor would not result in excessive 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,

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

ICAPCD requires standard mitigation and "discretionary" measures for construction emissions, which must be followed regardless of total construction emissions.

Indirect Emissions Associated with Panel Manufacturing and Use

Similar to the Proposed Action, implementation of Alternative 1-Alternative Transmission Line Corridor includes the construction of solar panels. The review of the latest studies is consistent with similar impacts as described for the proposed action. This review concluded, "…Large scale use of CdTe photovoltaic modules does not present any risks to public health and the environment."

Diesel-Related Toxic Emissions

In 1998, California identified diesel exhaust particulate matter as a toxic air contaminant based on its potential to cause cancer, premature death, and other health problems. Diesel engines also contribute to California's fine particulate matter (PM2.5) air quality problems (NEPA Indicators #1 and #2). 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). The analysis provided in the *Construction Air Quality Conformity Assessment* prepared by ISE (2010) identified a worst-case PM_{10} level of 0.16 $\mu g/m^3$ occurring at a distance of 1,563 meters (5,127 feet) from the project site. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period.

Odors

Similar to the Proposed Action, the development of Alternative 1-Alternative Transmission Line Corridor could generate short-term odors (NEPA Indicator #4). However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 1-Alternative Transmission Line Corridor.

Vehicular Emission Levels

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.

Aggregate Construction Emissions

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 (NEPA Indicators #1 and #2). Similar to the Proposed Action, no aggregate emissions impacts are identified for Alternative 1-Alternaive Transmission Line Corridor, with mitigation incorporated.

Operational Impacts

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.

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 pounds per day for the project under Alternative 1-Alternative Transmission Line Corridor.

Air Quality Plans

The Imperial Solar Energy Center South 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 (NEPA Indicator #5).

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.

C Alternative 2- Reduced Solar Energy Facility Site

Construction Impacts

Grading/Clearing/Hauling

Similar to the Proposed Action, implementation of Alternative 2- Reduced Solar Energy Facility Site would result in NO_x emissions that would exceed ICAPCD's threshold of 55 pounds per day (NEPA Indicators #1 and #2). As mentioned above, ICAPCD requires mitigation using cleaner Tier 2+ equipment[5] to reduce NO_x emissions below the 55 pounds per day threshold. With implementation of the Tier 2+ engine technology, NOx emissions would not exceed ICAPCD's threshold of 55 pounds per day. *Earthwork Activities* Similar to the Proposed Action, implementation of Alternative 2- Reduced Solar Energy Facility Site would not result in excessive fugitive dust emissions.

Indirect Emissions Associated with Panel Manufacturing and Use

Similar to the Proposed Action, implementation of Alternative 2- Reduced Solar Energy Facility Site includes construction of solar panels. As described above, a review the latest study information shows that impacts from the construction of the solar panels utilizes the latest technology and does not pose a risk to public

[5] 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).

health. Additionally, the impacts described above regarding the potential impacts from the exposure of the panels to fire are consistent with the impacts of the Proposed Action.

Diesel-Related Toxic Emissions

In 1998, California identified diesel exhaust particulate matter as a toxic air contaminant based on its potential to cause cancer, premature death, and other health problems. Diesel engines also contribute to California's fine particulate matter (PM2.5) air quality problems (NEPA Indicators #1 and #2). The combustion-fired construction emission concentrations for Alternative 2- Reduced Solar Energy Facility Site would be similar to those of the Proposed Action. Alternative 2- Reduced Solar Energy Facility Site would have a similar result. This pollutant concentration is below the California Ambient Air Quality Standard (CAAQS) of 50 $\mu g/m^3$ established by the State for any given 24-hour exposure period. Additionally, the anticipated diesel-fired $PM_{2.5}$ levels would not be expected to exceed 0.14 $\mu g/m^3$, which are also below the Federal NAAQS 24-hour thresholds of 35 $\mu g/m^3$ (there are no State thresholds for this pollutant).

Odors

Similar to the Proposed Action, the development of Alternative 2- Reduced Solar Energy Facility Site could generate short-term odors (NEPA Indicator #4). However, any odor generation would be intermittent and would terminate upon completion of the construction phase of Alternative 1-Alternative Transmission Line Corridor.

Vehicular Emission Levels

The calculated daily emission levels due to travel to and from the site for Alternative 2- 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 (NEPA Indicators #1 and #2).

Aggregate Construction Emissions

The aggregate construction emission levels produced by Alternative 2- 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 (NEPA Indicators #1 and #2). Similar to the Proposed Action, no aggregate emissions exceedances are identified for Alternative 2- Reduced Solar Energy Facility Site, with mitigation incorporated. Implementation of Mitigation Measures AQ1 and AQ2 would ensure NOx levels fall below ICAPCD's threshold.

Operational Impacts

Vehicle Emissions

The operation of Alternative 2- Reduced Solar Energy Facility Site would not change from the Proposed Action. 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 thresholds (NEPA Indicators #1 and #2).

Energy Consumption

Similar to the Proposed Action, CO_2 produced by non-generation (night time hours) consumption would be 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day or 3,858 pounds per day for the project under Alternative 2- Reduced Solar Energy Facility Site. The operational phase of the project under Alternative 2- Reduced Solar Energy Facility Site would not result in a considerable increase of criteria pollutants due to the nature of the project (NEPA Indicators #1 and #2).

Air Quality Plans

The Imperial Solar Energy Center South does not contain a residential component. As such, the project under Alternative 2- Reduced Solar Energy Facility Site would not result in regional population that exceeds the forecasts in the AQMP (NEPA Indicator #5).

Indirect Impacts

Similar to the Proposed Action, the Alternative 2- 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.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.4.1.5, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regard to air quality from the Alternative 3-No Action/No Project Alternative

4.4.3 Mitigation Measures and Residual Impacts

4.4.3.1 Proposed Action

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

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

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

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

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

- All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.
- All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.
- All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area.
- Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.
- The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

ICAPCD Standard Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

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

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

- Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- Implement the trip reduction plan to achieve a 1.5 AVR for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Enhanced Mitigation Measures for Construction Equipment

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

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

4.4.3.2 Alternative 1- Alternative Transmission Line Corridor

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

4.4.3.3 Alternative 2- Reduced Solar Energy Facility Site

Mitigation Measures AQ1 through AQ3 identified above for the Proposed Action will also be implemented for Alternative 2-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.4.3.4 Alternative 3- No Action/No Project Alternative

No mitigation is proposed under Alternative 3-No Action/No Project Alternative, as no air quality impacts under CEQA would occur.

4.4.3.5 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure AQ1:

Implementation of Mitigation Measure AQ1 would not result in a direct or indirect impact because the mitigation requires that all off-road construction diesel engines meet, at a minimum, the Tier 2 California Emissions Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 50 hp, that engine will have tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 2 emission levels.

Impact Analysis of Mitigation Measure AQ2:

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

Impact Analysis of Mitigation Measure AQ3:

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

4.4.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

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4.5 Greenhouse Gas Emissions

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

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, this EIR/EA analyzes whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2 -Reduced Solar Energy Facility Site, or Alternative 3-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-Reduced Solar Energy Facility Site, or Alternative 3-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.*

Indicator 3: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases* (Generate GHG emissions of *10,000 metric tons of CO2-equivalent GHG emissions on an annual basis.*

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

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

It should be noted that Imperial County's use of the 10,000 MTC02E threshold for this project is even more conservative that 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. The potential greenhouse gas emissions generated by the construction and operation of the Proposed Action includes all project components comprising of the solar energy facility site, transmission line corridor and access road. It should be noted that the greenhouse gas analysis is the same for each alternative, as the project site, construction and operational characteristics would not change regardless of the alternative 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 South 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 3895.2 result for N_2O can be expressed as an equivalent CO_2 (CO_{2e}) level of 1,152,979.2 pounds. Assuming the worst-case scenario 360 day construction period the final equivalent CO_{2e} GHG load for the project's construction equipment would be 1,358,395.2 pounds CO_{2e}, which is the total of 1,152,979.2 and the 205,416 pounds of CO_2 production as shown in Table 4.5-1.

TABLE 4.5-1
Construction Equipment Vehicle GHG Emissions – Imperial Solar Energy Center South (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 vehicle trips are the primary source of greenhouse gas emissions associated with the Proposed Action development. Constriction 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 680 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)	469	4,428.6	1.5
Light Duty Trucks (LDT)	132	1,560.4	0.7
Medium Duty Trucks (MDT)	44	698.7	0.3
Heavy Duty Trucks (HDT)	32	1,719.7	3.5
Buses (UBUS)	0	0.0	0.0
Motorcycles (MCY)	3	14.4	0.1
TOTAL	680	8,421.7	6.0

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 1,776.0 pounds for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 10,197.7 pounds. Assuming a worst-case 360-day construction period, the CO_{2e} load would be 3,670,920 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 5,029,315 pounds of CO_{2e}. When pounds are converted to metric tons of CO_{2e}, the result is 2,281 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 South

Project Scenario	CO_{2e}
Construction Equipment Operations	1,358,395
Construction Vehicle Operations	3,670,920
TOTAL (in pounds per 360 day construction period)	5,029,315
TOTAL (converted to metric tons of CO_{2e})	2,281

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 2,281 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, the project implements additional GHG reduction measures, which are described below in more detail.

Reduction Strategies

Consistent with the intent of AB 32, the Proposed Action 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.

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 4.5-4 and 4.5-5, the operation of the Proposed Action would consume 3.99 MW-h of electricity during generating hours (peak electricity consumption) and 5.82 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 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day. Annually the Proposed Action would produce 688.75 metric tons per year of CO_2, which is below the CEQA threshold of 25,000 metric tons or more of CO_{2e} GHG emissions on an annual basis and the CAPCOA and CARB threshold of 900 metric tons of CO_2 per year. Therefore, the operation of the Proposed Action would not directly generate greenhouse gas emissions that may have a CEQA significant impact on the environment; and, would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. For purposes of CEQA, long-term project impacts on the global climate as a result of project operations GHG emissions is less than significant.

TABLE 4.5-4
Generating Hours (Peak Electricity Consumption)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	200	140	28
Inverter HVAC	200	1,400	280
O&M Building	1	50,000	50
SCADA System	1	5,000	5
Total Power Consumption by Plant (kW):			363.0
Total Electrical Consumption over 11 Hours (MW-h):			3.99

Source: ISE, 2010.

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.

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	200	140	28
Inverter HVAC	200	1,400	280
O&M Building	1	50,000	50
SCADA System	1	5,000	5
House Lighting	485	175	84.9
Total Power Consumption by Plant (kW):			447.9
Total Electrical Consumption over 13 Hours (MW-h):			5.82

Source: ISE, 2010.

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.

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. The potential greenhouse gas emissions generated by the construction and operation of the Alternative 1-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line corridor and access road. 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 5,029,315 pounds of CO_{2e} due to construction activities, which when pounds are converted to metric tons of CO_{2e}, the result is 2,281 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. In addition, long-term project impact on the global climate as a result of project operations GHG emission is less than significant under CEQA.

4.5.1.3 Alternative 2-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 2-Reduced Solar Energy Facility Site 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-Reduced Solar Energy Facility Site. The potential greenhouse gas emissions generated by the construction and operation of the Alternative 2-Reduced Solar Energy Facility Site includes all project components comprising of the solar energy facility site, transmission line corridor and access road. 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-Reduced Solar Energy Facility Site would contribute a total of 5,029,315 pounds of CO_{2e} due to construction activities, which when pounds are converted to metric tons of CO_{2e}, the result is 2,281 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-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 2-Reduced Solar Energy Facility Site. In addition, long-term project impact on the global climate as a result of project operations GHG emission is less than significant under CEQA.

4.5.1.4 Alternative 3-No Action/No Project Alternative

The Proposed Action would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Therefore, there will be no effects on Greenhouse Gas Emissions under CEQA.

4.5.1.5 CEQA Summary

Based on the analysis presented above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2- Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative would result in potentially significant greenhouse gas emissions; however,

implementation of Mitigation Measures AQ1, GHG1, and GHG2 would reduce these impacts to a less than significant level under CEQA.

4.5.2 NEPA Environmental Assessment Summary

4.5.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Short-term Construction based GHG Analysis

Greenhouse Gas Emissions from Construction Equipment Operation

The Imperial Solar Energy Center South project would use different pieces of equipment required to grade and prepare the site for a period of roughly 340 to 360 days. Table 4.5-1above 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 3895.2 result for N_2O can be expressed as an equivalent CO_2 (CO_{2e}) level of 1,152,979.2 pounds. Assuming the worst-case scenario 360 day construction period the final equivalent CO_{2e} GHG load for the project's construction equipment would be 1,358,395.2 pounds CO_{2e}, which is the total of 1,152,979.2 and the 205,416 pounds of CO_2 production as shown in Table 4.5-1.

Greenhouse Gas Emissions from Construction Vehicle Trips

Construction motor vehicle trips are the primary source of greenhouse gas emissions associated with the Proposed Action development. Construction vehicle trips to and from these land uses are the primary contributor of greenhouse gases. The Proposed Action site is expected to have a total construction trip generation of 680 ADT. Table 4.5-2 above shows the GHG levels attributed to construction. The equivalent CO_{2e} level would be 1,776.0 pounds for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 10,197.7 pounds. Assuming a worst-case 360-day construction period, the CO_{2e} load would be 3,670,920 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 5,029,315 pounds of CO_{2e}. When pounds are converted to metric tons of CO_{2e}, the result is 2,281 metric tons or more of CO_{2e}. Table 4.5-3 shows the total GHG emissions budget.

With the implementation of Mitigation Measure AQ1, as provided in Section4.4 of this EIR/EA, the Proposed Action would contribute a total of 2,281 metric tons of CO_{2e} due to construction activities, which would not exceed the threshold identified above.

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 above provide the electricity consumption for the solar energy facility during operational generating and non-generating hours, respectively. Based on Tables 4.5-4 and 4.5-5, the operation of the Proposed Action would consume 3.99 MW-h of electricity during generating hours (peak electricity consumption) and 5.82 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 5.82 MW-h x 0.301 MT/MW-h = 1.75 metric tons per day. Annually the Proposed Action would produce 688.75 metric tons per year of CO_2, which is below the CAPCOA and CARB threshold of 900 metric tons of CO_2 per year.

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 that could potentially replace other sources of energy. Table 4.5-6 above 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.

B. Alternative 1- Alternative Transmission Line Corridor

The construction and operation of Alternative 1-Alternative Transmission Line Corridor would be very similar to the Proposed Action. As such the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 1- Alternative Transmission Line Corridor. The potential greenhouse gas emissions generated by the construction and operation of the Alternative 1-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line corridor and access road. 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 5,029,315 pounds of CO2e due to construction activities, which when pounds are converted to metric tons of CO2e, the result is 2,281 metric tons of CO2e. This is less than the threshold

C. Alternative 2- Reduced Solar Energy Facility Site

The construction and operation of Alternative 2-Reduced Solar Energy Facility Site would be similar to the Proposed Action. As such the analysis provided above for the construction and operation greenhouse gas emission impacts for the Proposed Action would apply for the Alternative 2-Reduced Solar Energy Facility Site. The potential greenhouse gas emissions generated by the construction and operation of the Alternative 2-Reduced Solar Energy Facility Site includes all project components comprising of the solar energy facility site, transmission line corridor and access road. 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-Reduced Solar Energy Facility Site would contribute a total of 5,029,315 pounds of CO2e due to construction activities, which when pounds are converted to metric tons of CO2e, the result is 2,281 metric tons of CO2e. This is less than the threshold.

D. Alternative 3-No Action/No Project Alternative

The Proposed Action would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Therefore, no greenhouse gas emissions would be produced from construction and operation, and no potential greenhouse gas benefit from a renewable energy project would be achieved.

4.5.3 Mitigation Measures and Residual Impacts

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

4.5.3.5 Analysis of Mitigation Measures

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

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

4.5.3.6 Residual Impact Analysis of Mitigation Measures

There would be no residual impacts as a result of the mitigation measures described above.

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4.6 Geology/Soils and Mineral Resources

Information contained in this section is summarized from the *Geotechnical Investigation Report, Imperial Solar Energy Center South* 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 Geology/Soils and Mineral Resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-No Action/No Project Alternative would:

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

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

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

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

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

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

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

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

NEPA Methodology

Evaluation of potential impacts to Geological and Soils resources was based on the Geotechnical Reports and field investigations. The indicators mentioned above provide a contextual relationship with which to evaluate the impacts of the Proposed Action and Alternatives in relation to the baseline existing conditions as described in Section 3.6. Review of the current data from the technical reports has provided information with regard to the soil conditions and the geological makeup of the site. The impacts of the project to these resources is analyzed below and summarized to describe the direct and indirect impacts.

4.6.1 Environmental Consequences

4.6.1.1 Proposed Action

The project site (which includes the solar field, transmission corridor, and access road) is relatively flat with no steep topography. As such, grading on the solar field, transmission corridor, and access road will be minimal due to the topography of the site. The project site is generally suitable for development, as it is relatively flat and there are no geologic characteristics of concern, with the exception of seismicity and the underlying soils. The site is underlain with expansive clay soils, which can potentially reduce soils strength and result in structural failure. However, potential effects caused by underlying clay soils are mitigable with the removal and replacement of the expansive soils with materials that properly support the surface-level uses. Initial construction of the transmission corridor would begin with site preparation. The use of foundations would be limited for the structural mat for the O&M building and footings for the transmission towers. The existing access road is flat with a less than 3% grade. No change in grade is proposed. The access road will either be maintained in its current form or six inches of class II base will be placed and compacted on top of the existing grade.

A. Geology

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

Implementation of the Proposed Action will involve remedial grading at the solar facility site where buildings are located. Remedial grading for buildings will likely consist of removal and replacement of the upper three feet of expansive clay soils with non-expansive sands. An alternative soil mitigation measure is to design foundations to resist expansive forces in accordance with the 2007 California Building Code (CBC) Chapter 18, Section 1805 or Post-Tensioning Institute, 2004 method. This requires grade-beam stiffened floor slabs (18 feet maximum on center) or post tensioned floor slabs. Design soil bearing pressure shall equal 1,500 psf. The proposed access road is in the same general vicinity of the solar facility site; however, this is a private entrance and no paving is proposed. Therefore, removal of expansive soils is not required. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength, causing structural failure. This is considered a significant impact under CEQA. Implementation of Mitigation Measure GS1 will reduce the impact of existing expansive soil conditions on the project site to a level less than significant under CEQA. Mitigation Measure GS1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Geotechnical Investigation, Imperial Solar Energy Center South*, prepared by Landmark Consultants, Inc. (2010), including the removal and replacement of these soils prior to construction of buildings.

B. Seismicity

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

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

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

Ground Shaking

The project site is located in a seismically active region, and as such is likely to be subject to at least one moderate to major earthquake during the design life of the structures, which is 30 years. The potential for ground acceleration, or shaking, on the project site is considered similar to the Southern California region. The closest mapped active faults in the region include: the Laguna Salada fault located approximately 8.5 miles to the southwest; the Superstition Hills fault located approximately 12 miles to the northeast; and the Imperial Fault located approximately 15 miles to the northeast. The potential impact related to ground shaking would be addressed through compliance with the most recent California Building Code (CBC) requirements, as the level of risk for the project site is the level of risk assumed by the CBC minimum design requirements. 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 due to well-delineated fault lines through the Imperial Valley as shown on United States Geological Survey (USGS) and California Geological Survey maps. No significant impact under CEQA is identified for this issue area.

Liquefaction

The four conditions that are generally required for liquefaction to occur all exist, to some degree, on the project site. LCI estimated that total seismic-induced settlement was on the order of 1 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur on the project site due to the underlying potentially liquefiable soil. Sand boils are conical piles of sand derived from the upward flow of groundwater caused by excess pore water pressures created during strong ground shaking. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. If the liquefiable layer lies at a depth greater than about twice the height of a free face, lateral spread is not likely to develop. Free faces occur along the All-American Canal and West Side Main Canal embankments at the project site. As such, liquefaction induced lateral spread may potentially occur at the project site.

This is considered a significant impact under CEQA. Implementation of Mitigation Measure GS1, specifically the recommendations addressing site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design, will reduce the impact of liquefaction induced lateral spreading to a level less than significant under CEQA.

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.

Generally, the project 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. 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 soils were highly corrosive to metals and contain sufficient sulfates and chlorides. The onsite soils were found to have low to severe levels of sulfate ion concentrations, which can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration. The onsite soils also have low to severe levels of chlorine ion concentrations, which can cause corrosion of reinforcing steel, anchor bolts, and other buried metallic conduits. The potential for corrosive soils on the project site is considered a significant impact under CEQA. 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 evaluation, 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 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. The potential for differential settlement on the project site is significant under CEQA. Implementation of Mitigation Measure GS1 will reduce the potential differential settlement impacts 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 design limits for structural foundations to limit differential movement and/or swell to less than one inch.

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

G. Septic Tanks/Alternative Wastewater Disposal System

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

The Proposed Action will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Proposed Action would not generate wastewater. 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 field, the Alternative Transmission Line Corridor, and proposed access road) is relatively flat with no steep topography and is generally suitable for development. As such, minimal grading will be required due to the flat topography of the site.

A. Geology

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

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

B. Seismicity

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

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

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

Ground Shaking

The Alternative 1-Alternative Transmission Line Corridor project site is located in a seismically active region, and as such is likely to be subject to at least one moderate to major earthquake during the design life of the structures. 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 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur due to the underlying potentially liquefiable soil. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. Liquefaction induced lateral spread may potentially occur due to free faces that occur along the All American Canal and West Side Main Canal embankments at the project site. The potential for liquefaction induced lateral spread to occur on the Alternative 1-Alternative Transmission Line Corridor project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce this impact to a level less than significant under CEQA.

Landslides

The hazard of landsliding is unlikely due to the flat topography of the Alternative 1-Alternative Transmission Line Corridor project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. Therefore, no significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

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

As described above, the Alternative 1-Alternative Transmission Line Corridor project 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 were identified to be highly corrosive to metals and contain sufficient 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 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. The potential for differential settlement on the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the potential differential settlement impacts to a level less than significant under CEQA.

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 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 significant 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 project under Alternative 1-Alternative Transmission Line Corridor will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Alternative 1-Alternative Transmission Line Corridor would not generate wastewater. Therefore, no significant impact is identified for this issue area.

4.6.1.3 Alternative 2- Reduced Solar Energy Facility Site

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

A. Geology

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

The Alternative 2-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 2-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 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 2-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 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur due to the underlying potentially liquefiable soil. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. Liquefaction induced lateral spread may potentially occur due to free faces that occur along the All American Canal and West Side Main Canal embankments at the project site. The potential for liquefaction induced lateral spread to occur on the Alternative 1-Alternative Transmission Line Corridor project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce this impact to a level less than significant under CEQA.

Landslides

The hazard of landsliding is unlikely due to the flat topography of the Alternative 2-Reduced Solar Energy Facility Site project site. Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. Therefore, no significant impact under CEQA is identified for this issue area.

C. Expansive and Corrosive Soils

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

As described above, the Alternative 2-Reduced Solar Energy Facility Site project 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 were identified to be highly corrosive to metals and contain sufficient 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 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. The potential for differential settlement on the project site is considered a significant impact under CEQA. However, implementation of Mitigation Measure GS1 will reduce the potential differential settlement impacts to a level less than significant under CEQA.

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-Reduced Solar Energy Facility Site project site 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-

Reduced Solar Energy Facility Site would not adversely affect the availability of any known mineral resources within the project site. Thus, no significant 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 project under Alternative 2-Reduced Solar Energy Facility Site will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks. The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Alternative 2-Reduced Solar Energy Facility Site would not generate wastewater. Therefore, no significant impact under CEQA is identified for this issue area.

4.6.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on geology/soils and mineral resources from Alternative 3-No Action/No Project Alternative.

4.6.1.5 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor and Alternative 2-Reduced Solar Energy Facility Site will result in geology and soils impacts. Mitigation Measure GS1 will reduce the geology and soils impacts to a level of less than significant under CEQA. No significant impact to mineral resources will occur with implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor and Alternative 2-Reduced Solar Energy Facility Site.

Alternative 3-No Action/No Project Alternative will not result in geology/soils or mineral resources impacts under CEQA. Therefore, no mitigation is required.

4.6.2 NEPA Environmental Assessment Summary

4.6.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above, the project site is underlain with expansive clay soils, which can potentially reduce soils strength (NEPA indicator #1). Implementation of Mitigation Measure GS1 will reduce the effect with regards to soil instability on the Proposed Action. With respect to building pad

construction, according to the geotechnical evaluation, the onsite soils were highly corrosive to metals and contain sufficient sulfates and chlorides. The onsite soils were found to have low to severe levels of sulfate ion concentrations, which can attack the cementitious material in concrete, causing weakening of the cement and ultimately deterioration (NEPA indicator #1). The onsite soils also have low to severe levels of chlorine ion concentrations, which can cause corrosion of reinforcing steel, anchor bolts, and other buried metallic conduits. Implementation of Mitigation Measure GS1 would reduce the effects of highly corrosive soils.

The project site is located in a seismically active region of Southern California, and as such, is likely to be subject to ground shaking as the result of at least one moderate earthquake during the design life of the project, approximately 30 years (NEPA indicator #2). The closest mapped active faults in the region include: the Laguna Salada fault located approximately 8.5 miles to the southwest; the Superstition Hills fault located approximately 12 miles to the northeast; and the Imperial Fault located approximately 15 miles to the northeast. The potential effect related to ground shaking would be addressed through compliance with the most recent California Building Code (CBC) requirements, as the level of risk for the project site is the level of risk assumed by the CBC minimum design requirements.

The project site is not within a State of California, Alquist-Priolo Earthquake Fault Zone. Surface fault rupture is considered to be unlikely at the project site due to well-delineated fault lines through the Imperial Valley as shown on United States Geological Survey (USGS) and California Geological Survey maps.

The hazard of landsliding on the project site is unlikely due to the regional planar topography (NEPA Indicators #2 and #3). No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation.

There is a potential for liquefaction/differential settlement within the project site as a result of an earthquake (NEPA Indicator #3). As mentioned above in Section 4.6.1.1, LCI estimated that total seismic-induced settlement was on the order of 1 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur on the project site due to the underlying potentially liquefiable soil. Implementation of Mitigation Measure GS1, specifically the recommendations addressing site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design would reduce the effects of liquefaction/differential settlement on the Proposed Action.

The project site is not utilized for mineral resource production (NEPA Indicators #5 and #6). No known mineral resources occur within the project site and the project site does not contain mapped mineral resources (USGS, 1983). As such, the Proposed Action would not directly or indirectly affect the availability of any known mineral resources that would be of value to the region and the residents of the state or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The Proposed Action will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building (NEPA Indicator #7). 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. The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Proposed Action would not generate wastewater.

B. Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site is underlain with clay soils that have a high to very high expansion potential. Expansive soils are of concern because building foundations, concrete flatwork, and asphaltic concrete pavements may be prone to the potential swelling forces and reduction in soil strength (NEPA Indicator #1). Implementation of Mitigation Measure GS1 will reduce the effect with regards to soil instability.

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor onsite soils were found to have low to severe levels of sulfate ion concentrations, which can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration (NEPA Indicator #1). The onsite soils also have low to severe levels of chlorine ion concentrations, which can cause corrosion of reinforcing steel, anchor bolts, and other buried metallic conduits. Implementation of Mitigation Measure GS1 would reduce the effects of highly corrosive soils.

Similar to the Proposed Action, 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 (NEPA Indicator #2). The potential for ground acceleration, or shaking, on the project site is considered similar to the Proposed Action. Implementation of Alternative 1-Alternative Transmission Line Corridor would require compliance with the most recent CBC requirements to address the effect related to ground shaking.

Similar to the Proposed Action, 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 (NEPA Indicator #2).

Similar to the Proposed Action, there is a potential for liquefaction/differential settlement within the Alternative 1-Alternative Transmission Line Corridor project site as a result of an earthquake (NEPA Indicator #3). The total seismic-induced settlement was on the order of 1 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur due to the underlying potentially liquefiable soil. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. Liquefaction induced lateral spread may potentially occur due to free faces that occur along the All American Canal and West Side Main Canal embankments at the project site. Implementation of Mitigation Measure GS1 would reduce the effects of liquefaction/differential settlements.

The hazard of landsliding is unlikely due to the flat topography of the Alternative 1-Alternative Transmission Line Corridor project site (NEPA Indicators #2 and #3). Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation.

Construction activity associated with site development of Alternative 1 – Alternative Transmission Line Corridor may result in water-driven erosion of soils (NEPA Indicator #4). 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 effects of soil erosion.

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site is not utilized for mineral resource production (NEPA Indicators #5 and #6). 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 affect the availability of any known mineral resources within the project site.

The project under Alternative 1-Alternative Transmission Line Corridor will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks (NEPA Indicator #7). The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Alternative 1-Alternative Transmission Line Corridor would not generate wastewater.

C. Alternative 2-Reduced Solar Energy Facility Site

Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site project site is underlain with clay soils that have a high to very high expansion potential (NEPA Indicator #1). 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. Implementation of Mitigation Measure GS1 will reduce the effect with regards to soil instability.

Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site onsite soils were found to have low to severe levels of sulfate ion concentrations, which can attack the cementitous material in concrete, causing weakening of the cement and ultimately deterioration (NEPA Indicator #1). The onsite soils also have low to severe levels of chlorine ion concentrations, which can cause corrosion of reinforcing steel, anchor bolts, and other buried metallic conduits. Implementation of Mitigation Measure GS1 would reduce the effects of highly corrosive soils.

Similar to the Proposed Action, the Alternative 2-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 (NEPA Indicator #2). There is a potential for ground acceleration, or shaking, on the project site. Implementation of the Alternative 2-Reduced Solar Energy Facility Site would

require compliance with the most recent CBC requirements to address the potential impact related to ground shaking.

The Alternative 2-Reduced Solar Energy Facility Site project site is not located within a State of California, Alquist-Priolo Earthquake Zone (NEPA Indicator #2). As such, surface rupture is considered unlikely to occur on the project site.

Similar to the Proposed Action, there is a potential for liquefaction/differential settlement within the Alternative 2-Reduced Solar Energy Facility Site project site as a result of an earthquake (NEPA Indicator #3). The total seismic-induced settlement was on the order of 1 to 4 ½ inches with liquefaction induced differential settlements estimated to be approximately ¾ to 3 inches. In addition, there is a potential for ground rupture or sand boil formation to occur due to the underlying potentially liquefiable soil. Sand boils are not inherently damaging by themselves, but are an indication that liquefaction occurred at depth. Liquefaction induced lateral spread may potentially occur due to free faces that occur along the All American Canal and West Side Main Canal embankments at the project site. Implementation of Mitigation Measure GS1 would reduce the effects of liquefaction/differential settlements.

The hazard of landsliding is unlikely due to the flat topography of the Alternative 2-Reduced Solar Energy Facility Site project site (NEPA Indicators #2 and #3). Furthermore, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation.

Construction activity associated with site development of the Alternative 2-Reduced Solar Energy Facility Site may result in water-driven erosion of soils (NEPA Indicator #4). 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 effect of soil erosion.

Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site project site is not utilized for mineral resource production (NEPA Indicators #5 and #6). 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-Reduced Solar Energy Facility Site would not affect the availability of any known mineral resources within the project site.

The project under Alternative 2-Reduced Solar Energy Facility Site will require the use of a septic tank system on the solar energy facility site to treat domestic wastewater from the O&M building. The septic system will be required to comply with standard construction measures to ensure that soils are capable of adequately supporting the use of septic tanks (NEPA Indicator #7). The transmission line corridor and proposed access road would not require the use of a septic tank or alternative wastewater disposal system, as these components of the Alternative 2-Reduced Solar Energy Facility Site would not generate wastewater.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.6.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regards to geology/soils and mineral resources from the Alternative 3-No Action/No Project Alternative.

4.6.3 Mitigation Measure and Residual Impacts

4.6.3.1 Proposed Action

GS1 Prior to approval of final engineering and grading plans for the Imperial Solar Energy Center South project site, the County shall verify that all recommendations contained in the *Geotechnical Investigation Report, Imperial Solar Energy Center South,* prepared by Landmark Consultants, Inc. (May 2010) has been incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design. The County's soil engineer and engineering geologist shall review grading plans prior to finalization, to verify plan compliance with the recommendations of the report. All development on the project site shall be in accordance with Title 24, California Code of Regulations.

4.6.3.2 Alternative 1- Alternative Transmission Line Corridor

Mitigation Measure GS1 identified above for the Proposed Action will also be implemented for Alternative 1- Alternative Transmission Line Corridor, if this alternative were to be selected.

4.6.3.3 Alternative 2- Reduced Solar Energy Facility Site

Mitigation Measure GS1 identified above for the Proposed Action will also be implemented for Alternative 2- Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.6.3.4 Alternative 3- No Action/No Project Alternative

No mitigation is proposed under Alternative 3-No Action/No Project Alternative, as no direct impacts on geology/soils and mineral resources would occur.

4.6.3.5 Impact Analysis of Mitigation Measures

<u>Impact Analysis of Mitigation Measure GS1:</u>

Implementation of Mitigation Measure GS1 would not result in a direct or indirect impact because the mitigation requires that all recommendations contained in the *Geotechnical Investigation Report, Imperial Solar Energy Center South,* prepared by Landmark Consultants, Inc. (May 2010) be incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design.

4.6.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

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4.7 Cultural Resources

Cultural Resources Survey for the Imperial Valley South 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 BLM has determined that there will be an adverse effect to historic properties and is currently developing a Memorandum of Agreement (MOA) to resolve the adverse effect.

NEPA Indicators/Methodology

National Register of Historic Places

A property that qualifies for the NRHP is considered significant under the NHPA. 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, properties 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 property 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 contributes 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-Reduced Solar Energy Facility Site, or Alternative 3-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

Ten previously recorded cultural resources and eleven new cultural resources are identified within the APE. Of the 21 cultural resources within the APE, 20 sites will not be directly impacted by the proposed project. Table 4.7-1 lists all 21 cultural resources within the APE and describes possible effects, and NRHP status. Below are possible effects described by alternative.

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

Trinomial or Temporary #	NRHP Status	Potential Impacts	Type	Impacted Alternatives
IMP-3999	Eligible	3 towers, access road, pull sites	Temporary camp	All
IMP-4485/4495	Eligible	None (avoided)	Temporary camp	Alternative 1 Only
IMP-4479	Treated as eligible	None (avoided)	Ceramic scatter	Alternative 1 Only
IMP-4959	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-4961	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-4962	Treated as eligible	None (avoided)**	Temporary camp	All
IMP-4963	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-5593	Treated as eligible	None (avoided)	Sparse lithic scatter (isolate)	All
IMP-7874	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-7875	Treated as eligible	None (avoided)	Lithic scatter	All
S-1	Treated as eligible	None (avoided)	Ceramic and lithic scatter	Proposed Action, and Alternative 2
S-2	Treated as eligible	None (avoided)	Historic road	Alternative 1 Only
S-5	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
S-38	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-115-S-2	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All
IMP-115-S-3	Treated as eligible	None (avoided)	Sparse lithic scatter	
IMP-115-S-4	Treated as eligible	None (avoided)	Lithic scatter	
IMP-115-S-5	Treated as eligible	None (avoided)	Lithic scatter	All
IMP-115-S-6	Treated as eligible	None (avoided)	Sparse lithic scatter	All
IMP-115-S-7	Treated as eligible	None (avoided)	Sparse lithic scatter	All
IMP-115-S-8	Treated as eligible	None (avoided)	Ceramic and lithic scatter	All

Source: RECON Environmental, Inc., 2010.

4.7.1.1 Proposed Action

The following provides an analysis of the potential effects associated with construction and operation of the Proposed Action. The Proposed Action consists of the 947-acre solar site (R-2 and IVS-6) in addition to the Transmission Lines IVS-1 and IVS-3, which connect with the northwestern portion of the solar field (R-2). To summarize, the Proposed Action Alternative APE consists generally of the following components (totaling approximately 1,257 acres):

- R-2 and IVS-6 South Solar Field (947 acres)
- IVS-1 Transmission Line 300-foot corridor (242 acres)
- IVS-3 Transmission Line Extension 500-foot corridor (68 acres)

Construction and Operational Impacts—Proposed Action

There are a total of 19 cultural resources located within the Proposed Action APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, the Proposed Action would result in significant impacts to one previously recorded cultural resource (IMP-3999) located within the APE. IMP-3999 is the only historic property that will be adversely affected by this project. However, Applicant Mitigation Measure CR1 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 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 nine sites (IMP-4485/4495, -4959, -4962, -4963, IMP-7875, S-5, S-38, IMP-115-S-7, and IMP-115-S-8) that are adjacent to the direct impacts; these sites may be indirectly impacted by the Proposed Action.

However, Applicant Mitigation Measure CR2 is incorporated as a project design feature in order to ensure that project impacts for the above nine sites do not rise to the level of significance pursuant to CEQA. The Proposed Action has been designed to avoid the remaining nine 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 CR3 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. While the project has been designed to avoid any known areas of potential human remains, subsurface activities always have some potential to impact previously unknown remains. Applicant Mitigation Measure CR4 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

Alternative 1-Alternative Transmission Line Corridor includes the 947-acre solar energy facility site (R-2 and IVS-6) as well as Transmission Lines IVS-1, IVS-4, and IVS-5, which follow a southern route to connect to the southwestern portion of the solar energy facility site (R-2). Thus, Alternative 1-Alternative Transmission Line Corridor (totaling approximately 1,252 acres) APE can be generally summarized as follows:

- R-2 and IVS-6 South Solar Field (947 acres)
- IVS-1 Transmission Line 300-foot corridor (242 acres)
- IVS-4 Alternative Transmission Line 300-foot corridor (34 acres)
- IVS-5 Alternative Transmission Line Extension 500-foot corridor (29 acres)

Construction and Operational Impacts—Alternative 1-Alternative Transmission Line Corridor

There are a total of 20 cultural resources located within the Alternative 1-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, Alternative 1-Alternative Transmission Line Corridor would result in significant impacts, pursuant to CEQA, to the one previously recorded cultural resource located within the APE which is also impacted by the Proposed Action (IMP-3999). In addition, without Applicant Mitigation Measures, Alternative 1-Alternative Transmission Line Corridor would result in significant impacts to one additional site (IMP 4485/4495). However, Applicant Mitigation Measure CR1 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 cultural resources adjacent to the impact areas within the Alternative 1-Alternative Transmission Line Corridor APE due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural sites outside the construction area. There are nine cultural resources (IMP-4485/4495, IMP-4959, IMP-4962, IMP-4963, IMP-7875, S-2, S-5, S-38, IMP-115-S-7, and IMP-115-S-8) that are adjacent to the direct impacts; these cultural resources may be indirectly impacted by Alternative 1-Alternative Transmission Line Corridor. However, Applicant Mitigation Measure CR2 is incorporated as a project design feature in order to ensure that project impacts do not rise to the level of significance pursuant to CEQA. Alternative 1-Alternative Transmission Line Corridor has been designed to avoid the remaining nine cultural resources 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 CR3 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. While the project has been designed to avoid any known areas of potential human remains, subsurface activities always have some potential to impact previously unknown remains. Applicant Mitigation Measure CR4 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-Reduced Solar Energy Facility Site

The following provides an analysis of the potential impacts associated with construction and operation of Alternative 2-Reduced Solar Energy Facility Site. Alternative 2-Reduced Solar Energy Facility Site consists of a reduced 476-acre solar energy facility site (R-2 and IVS-6) in addition to the Transmission Lines IVS-1 and IVS-3 (same as in the Proposed Action), which connect with the northwestern portion of the proposed solar

energy facility site (R-2). To summarize, Alternative 2-Reduced Solar Energy Facility Site APE consists generally of the following components (totaling approximately 786 acres):

- R-2 and IVS-6 South Solar Field (476 acres)
- IVS-1 Transmission Line 300-foot corridor (242 acres)
- IVS-3 Transmission Line Extension 500-foot corridor (68 acres)

Construction and Operational Impacts—Alternative 2-Reduced Solar Energy Facility Site

Like the Proposed Action, there are a total of 19 cultural resources located within the Alternative 2-Reduced Solar Energy Facility Site APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, Alternative 2-Reduced Solar Energy Facility Site would result in significant impacts to the same previously recorded cultural resource located within the APE impacted by the Proposed Action (IMP-3999). However, Applicant Mitigation Measure CR1 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 cultural resources adjacent to the impact areas within Alternative 2-Reduced Solar Energy Facility Site APE due to increased traffic during construction. It is also possible that grading within the construction area could increase the amount of sheet flow and water runoff during heavy rainfall events that could cause damage to cultural resources outside the construction area. There are nine cultural resources (IMP-4485/4495, IMP-4959, IMP-4962, IMP-4963, IMP-7875, S-5, S-38, IMP-115-S-7, and IMP-115-S-8) that are adjacent to the direct impacts; these cultural resources may be indirectly impacted by Alternative 2-Reduced Solar Energy Facility Site, without Applicant Mitigation Measures. However, Applicant Mitigation Measure CR2 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 2-Reduced Solar Energy Facility Site has been designed to avoid the remaining nine cultural resources within the Alternative 2-Reduced Solar Energy Facility Site APE.

During construction and operational repair periods of the Alternative 2-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 potential to impact previously unknown archaeological subsurface resources. However, Applicant Mitigation Measure CR3 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-Reduced Solar Energy Facility Site, grading, excavation and trenching will be required. While the project has been designed to avoid any known areas of potential human remains, subsurface activities always have some potential to impact previously unknown remains. Applicant Mitigation Measure CR4 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-No Action/No Project Alternative

Under the Alternative 3-No Action/No Project Alternative the IV South Solar Field would not be approved and would not be used for solar power generation. The solar field (R-2) would remain as agricultural land, and none of the transmission line corridors would be utilized. No cultural resources would be impacted under the Alternative 3-No Action/No Project Alternative, and no mitigation would be required.

4.7.1.5 CEQA Impact Summary

Table 3.7-1 and Table 4.7-1 summarize all 21 cultural resources found within the APE. Of the 21 cultural resources within the project area, three have been determined eligible for inclusion on the NRHP. Of the remaining 18 cultural resources, eleven appear to be eligible for the NRHP or CRHR based upon the survey level of investigation and seven sites (three previously recorded and four newly recorded) appear not to be eligible based upon the survey level of investigation. Pursuant to CEQA Guidelines § 15064.5(a)(1) and (2), there is at least a rebuttable presumption that these are significant historic resources. Therefore, for purposes of CEQA and allowing Imperial County to understand the project's impacts under a worst-case scenario, this EIR deems the 14 cultural resources significant historical resources and Applicant Mitigation Measures CR1 through CR4 are enforceable on the three cultural resources with potentially significant impacts in order to assure that project impacts to these sites do not rise to the level of significance. The number of cultural resources impacted, broken down by Alternative, is shown in Table 4.7-2 below.

Table 4.7-2
Impact Comparison by Alternative

	Proposed Action	Alt 1	Alt 2	Alt 3
Potential for Significant Direct Impacts	1	2	1	0
Potential for Significant Indirect Impacts	9	9	9	0

Source: RECON Environmental, Inc., 2010.

4.7.2 NEPA Environmental Assessment Summary

4.7.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

As discussed above, the Proposed Action consists of the 947-acre solar site (R-2 and IVS-6) in addition to the Transmission Lines IVS-1 and IVS-3, which connect with the northwestern portion of the solar field (R-2).

There are a total of 19 cultural resources located within the Proposed Action APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. Without Applicant Mitigation Measures, the Proposed Action would affect one previously recorded cultural resource (IMP-3999) located within the APE (NEPA Indicator #1). IMP-3999 is the only historic property that would be adversely affected by this project (NEPA Indicator #1). However, Applicant Mitigation Measure CR1 is incorporated as a project design feature in order to ensure that the resource is not affected.

There is a potential for indirect effects to sites adjacent to the impact areas within 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 nine sites (IMP-4485/4495, -4959, -4962, -4963, IMP-7875, S-5, S-38, IMP-115-S-7, and IMP-115-S-8) that are adjacent to the direct impacts; these sites may be indirectly impacted by the Proposed Action (NEPA Indicator #1). However, Applicant Mitigation Measure CR2 is incorporated as a project design feature in order to ensure that the nine sites are not adversely impacted. The Proposed Action has been designed to avoid the remaining nine 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 affect previously unknown archaeological subsurface resources (NEPA Indicator #1). However, Applicant Mitigation Measure CR3 is incorporated as a project design feature in order to ensure that the construction of the project does not adversely impact previously unknown resources.

During construction and operational repair period of the Proposed Action, grading, excavation and trenching will be required. While the project has been designed to avoid any known areas of potential human remains, subsurface activities always have some potential to unearth previously unknown remains (NEPA Indicator #1). Applicant Mitigation Measure CR4 will ensure that construction of the project does not adversely impact previously unknown human remains.

B. Alternative 1-Alternative Transmission Line Corridor

Alternative 1-Alternative Transmission Line Corridor includes the 947-acre solar energy facility site (R-2 and IVS-6) as well as Transmission Lines IVS-1, IVS-4, and IVS-5, which follow a southern route to connect to the southwestern portion of the solar energy facility site (R-2). Thus, Alternative 1-Alternative Transmission Line Corridor (totaling approximately 1,252 acres) APE can be generally summarized as follows:

- R-2 and IVS-6 South Solar Field (947 acres)
- IVS-1 Transmission Line 300-foot corridor (242 acres)
- IVS-4 Alternative Transmission Line 300-foot corridor (34 acres)
- IVS-5 Alternative Transmission Line Extension 500-foot corridor (29 acres)

Similar to the proposed action, there are a total of 20 cultural resources located within the Alternative 1-Alternative Transmission Line Corridor APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1. These impacts are the same as described above and the proposed mitigation measures will reduce the likelihood of impacts as mentioned above

C. Alternative 2-Reduced Solar Energy Facility Site

Alternative 2-Reduced Solar Energy Facility Site consists of a reduced 476-acre solar energy facility site (R-2 and IVS-6) in addition to the Transmission Lines IVS-1 and IVS-3 (same as in the Proposed Action), which connect with the northwestern portion of the proposed solar energy facility site (R-2). To summarize, Alternative 2-Reduced Solar Energy Facility Site APE consists generally of the following components (totaling approximately 786 acres):

- R-2 and IVS-6 South Solar Field (476 acres)
- IVS-1 Transmission Line 300-foot corridor (242 acres)
- IVS-3 Transmission Line Extension 500-foot corridor (68 acres)

Similar to the Proposed Action, there are a total of 19 cultural resources located within the Alternative 2-Reduced Solar Energy Facility Site APE. These cultural resources are described in Section 3.7, Affected Environment, and listed in Table 3.7-1 and Table 4.7-1.

Similar to the Proposed Action, there is a potential for indirect effects to cultural resources adjacent to the impact areas within Alternative 2-Reduced Solar Energy Facility Site APE due to increased traffic during construction.

D. Alternative 3-No Action/No Project Alternative

Under the Alternative 3-No Action/No Project Alternative the IV South Solar Field would not be approved and would not be used for solar power generation. The solar field (R-2) would remain as agricultural land, and none of the transmission line corridors would be utilized. No cultural resources would be impacted under the Alternative 3-No Action/No Project Alternative, and no mitigation would be required.

4.7.2.2 NEPA/NHPA Environmental Consequences/Conclusions

In addition to the on-going BLM consultation with affected tribes, BLM is conducting formal consultation with the SHPO and ACHP, which has led to the development of a Memorandum of Agreement (MOA). Pursuant to Section 106 of NHPA, determinations of adverse effects to historic properties and resolution of effect cannot be made without consultation, and the Decision Record must include the MOA. The BLM is currently developing a MOA to resolve the adverse effects of this project. 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 effects, then when the MOA is fully executed, the Proposed Action and Alternatives will have fulfilled the requirements of the NHPA and NEPA. The MOA shall be executed prior to the BLM's approval of the Decision Record. The CEQA-based conclusions discussed above in Section 4.7.1.5 disclose factual information that may be relevant to the BLM consultation, but they are not binding on the consultation process.

4.7.3 NEPA/NHPA-Based Mitigation Measures

The BLM invited tribes into consultation on June 24, 2010. In addition, the BLM has initiated formal consultation with the SHPO and ACHP. Pursuant to Section 106 of NHPA, determinations of adverse effects

and resolutions of effect cannot be made without consultation, and the Decision Record for this project must include the executed agreement document. The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA. 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 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 and Residual Impacts

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 Reg §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 impact's 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 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 the consultation process resulting in a MOA shall also be implemented and the MOA shall also 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 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 South project or grading related to operational repairs; mitigation measures shall be implemented as follows:

CR1 The sites, which would be impacted during project construction, are broken down by alternative in Section 4.7.1 above. For those sites subject to the preliminary surveys and 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 or 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 or 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.

CR2 There are additional sites which may be impacted due to their proximity to construction areas (see Section 4.7.1 above). Because these sites are located near areas being impacted by project construction, 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.

CR3 Pursuant to CEQA Guidelines § 15064.5(f), in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors 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.

CR4 If human remains are discovered, work will be halted in that area, and the procedures set forth in the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 and the Native American Graves Protection and Repatriation Act (NAGPRA) shall be followed, as applicable.

4.7.4.3 Alternative 1-Alternative Transmission Line Corridor- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR1 through CR4 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-Reduced Solar Energy Facility Site- Applicant Mitigation Measures/Project Design Features

Mitigation Measures CR1 through CR4 identified above for the Proposed Action will also be implemented for Alternative 2-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.7.4.5 Alternative 3-No Action/No Project Alternative- Applicant Mitigation Measures/Project Design Features

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on cultural resources from the Alternative 3-No Action/No Project Alternative and no mitigation would be required.

4.7.4.6 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure CR1:

Implementation of Mitigation Measure CR1 would not result in a direct or indirect impact because it requires that a formal testing and evaluation program be conducted and prepared for those resources which would be directly impacted due to the construction of access roads, towers, pull sites, or solar fields. The evaluation program will be consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation*. If the resources are determined to be eligible for listing on the NRHP, CRHR, and/or local register, best management practices consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation* will be required.

Impact Analysis of Mitigation Measure CR2:

Implementation of Mitigation Measure CR2 would not result in a direct or indirect impact because temporary fencing around the perimeters of the cultural resources located within the project impact areas will be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel and the fencing itself would not increase ground disturbance or impacts to other resources. In addition, grading within the construction area shall be performed in a manner that incorporates sheet flow and water runoff diversion techniques to prevent surface water from damaging off-site cultural sites.

Impact Analysis of Mitigation Measure CR3:

Implementation of Mitigation Measure CR3 would not result in a direct or indirect impact because, pursuant to CEQA Guidelines § 15064.5(f), in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors 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.

Impact Analysis of Mitigation Measure CR4

Implementation of Mitigation Measure CR3 would not result in a direct or indirect impact because if human remains are discovered, work will be halted in that area, and the procedures set forth in the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 and the Native American Graves Protection and Repatriation Act (NAGPRA) shall be followed, as applicable.

4.7.4.7 Residual Impact Analysis of Mitigation Measures

There would be no residual impacts associated with the above prescribed mitigation measures since the mitigation measures would preserve the integrity of the cultural resources.

4.7.4.8 Impact After Applicant Mitigation Measures and Execution of Memorandum of Agreement

Known historical resources are deemed to be significant for purposes of analyzing the project under the worst-case scenario, but the required implementation of applicant mitigation measures CR1 and CR2 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 or human remains can occur during construction grading and operational repairs. These impacts were also deemed potentially significant for purposes of analyzing the project under the worst-case scenario, but the required implementation of applicant mitigation measures CR3 and CR4 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 CR1 through CR4 as described above, no significant impacts to cultural resources would occur with respect to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative for purposes of CEQA. These fully enforceable Applicant Mitigation Measures provide sufficient mitigation independent of any draft MOA developed through BLM's current consultation process, but the Project shall be subject to any more stringent terms in the MOA, thereby mitigating the Project impacts from below a level of significance to "further" below a level of significance under CEQA. The applicant/permittee consents to be bound by the MOA even though CEQA would not otherwise require mitigation for an impact that is already below a level of significance.

4.7.4.9 NEPA Impact After 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 effects to historic properties and the potential development of a MOA. The MOA must be executed prior to and included in the BLM's Decision Record thus providing compliance with NEPA and NHPA.

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4.8 Noise

The noise analysis provided in this section is summarized from the Construction *Acoustical Site Assessment Imperial Solar Energy Center South* prepared by Investigative Science and Engineering, Inc. (ISE) (August 19, 2010). This document is provided on the attached CD of Technical Appendices as Appendix E of this EIR/EA.

CEQA Significance Criteria/NEPA Indicators

For the purpose of this EIR/EA, a significant Noise impact, under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-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

Analysis of the Noise issues was performed through quantitative analysis of expected noise levels, review of agency policies and regulatory requirements, and qualitative analyses for issues that did not lend themselves to quantitative evaluation. Quantitative analyses were prepared to address noise and vibration from construction equipment operations, noise from construction-related traffic, and noise from facility operations. Qualitative evaluations were prepared to address issues related noise impacts to wildlife. Additional details regarding impact assessment methodologies are discussed under relevant impact topics. The region of interest for noise and vibration issues is typically very localized. Airborne noise dissipates fairly rapidly with increasing distance from the noise source. The distances involved depend primarily on the intensity of the noise generated by the source, and partly on weather conditions such as wind speed and direction, the height and strength of temperature inversions, and the height of cloud cover. Sound is detectable somewhat further downwind than upwind of a noise source. Temperature inversions and cloud cover can reflect or refract sound that is radiated upwards; this effect can increase noise levels at locations that receive the reflected or refracted sound. Such reflection and refraction effects are important primarily for high intensity sounds. For noise sources such as construction activity and vehicle traffic, the region of influence is typically less than ¼ mile from the noise source.

Ground-borne vibrations typically dissipate rapidly with increasing distance from the vibration source. The distances involved depend primarily on the intensity of the vibrations generated by the source, and partly on soil and geologic conditions. Detectable vibrations will travel the greatest distance through solid rock and the least distance through loose, unconsolidated soils or saturated soils. For vibration sources such as construction activity and vehicle traffic, the region of influence is typically less than 1,000 feet from the vibration source.

NEPA Methodology

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

Noise impacts are evaluated using Imperial County's General Plan Noise Element to identify sensitive receptors as areas of habitation and may also be non-human species (i.e., sensitive bird species). The closest human sensitive receptors are residences. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. Burrowing owls and other sensitive bird species were observed on the solar field site. See section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor).

The indicators mentioned above provide for a context in which to relate the impacts of the Proposed Action to the existing environment and thereby describe the intensity. The local jurisdiction's information is included to provide for a classification of sensitive receptors, even though the noise generated by the project during construction and operations may impact the casual user. The long-term noise impacts will be discussed in relation to the operation of the facility and any impacts from maintenance.

4.8.1.1 Proposed Action

A. Construction Noise

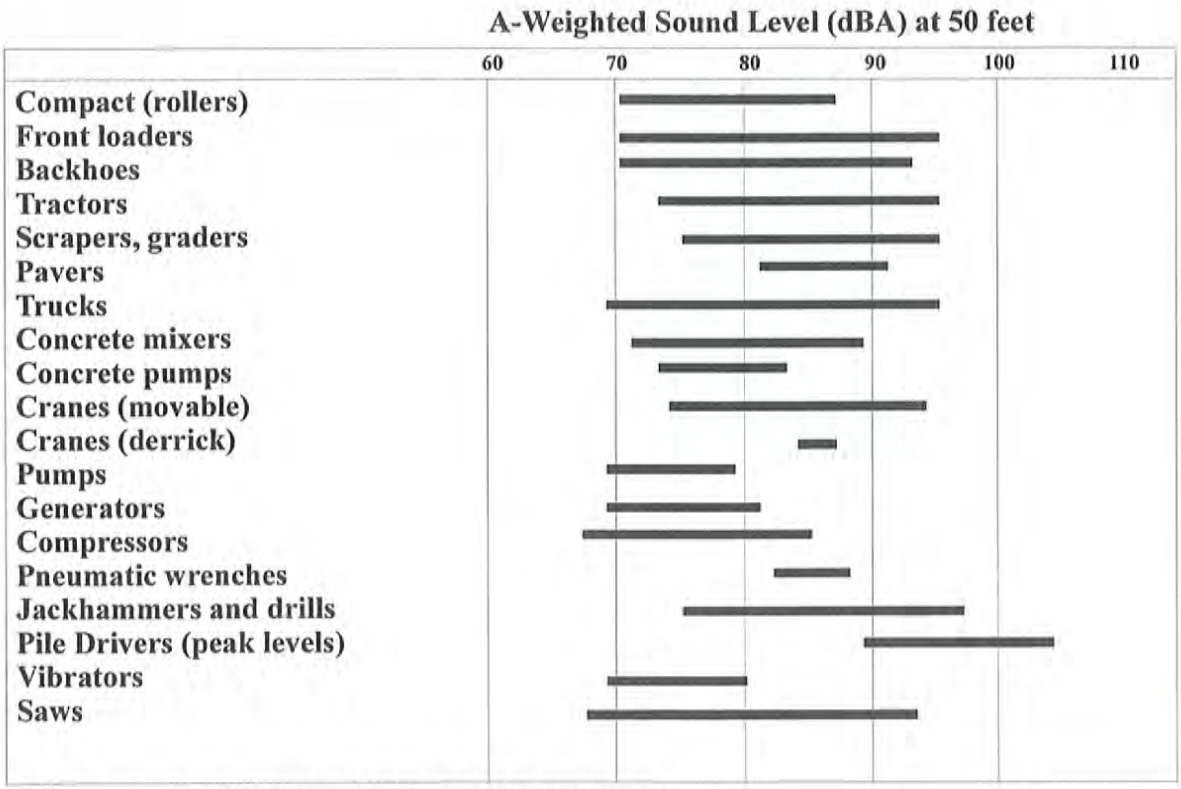
Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., above 75 dB Leq measured at nearest sensitive receptor.

During the construction phases of the solar field facilities, transmission line corridor, and the access road, short-term noise will be generally associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The degree of impacts will be dictated by the amount of construction equipment used, the density of heavy equipment, the proximity to a noise sensitive land use area, and the duration of the grading process.

General grading and construction activity noise levels for various pieces of equipment are shown in Figure 4.8-1. Noise levels emanating from a single source typically fall off at a rate of 6 dB for every doubling of distance from the source. At a distance of 200 feet, the noise levels shown in Figure 4.8-1 are approximately 12 dBA less; at a distance of 1,000 feet, the levels are about 25dBA less. The loudest equipment expected to operate would be equipment used during the grading process.

Table 4.8-1 also provides a worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time. The resulting average daily construction noise level would vary between 44 and 48 dBA Leq-h or less at any sensitive receptor area. It should be noted that the Noise Element of the Imperial County General Plan identifies sensitive receptors as areas of habitation and may also be non-human species (i.e., sensitive bird species). Noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus it would not be deemed disturbing to potential adjacent sensitive receptors (areas of habitation) per the requirements by the County of Imperial. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts. The area of the Proposed Action is otherwise not located in proximity of other types of sensitive land uses, including residential structures. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site.

The most effective method to control construction noise is through the institution of local control of construction hours. Construction activities would adhere to the construction time periods of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays by ordinance. Therefore, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario), noise generated during construction activities is not considered significant under CEQA.



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

SOURCE: ISE, Inc., 2008

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BRG CONSULTING, INC.

Imperial Solar Energy Center South

Typical Construction Noise Levels at 50 Feet

FIGURE 4.8-1

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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 Energy 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. No residences are within 25 feet of any component of the Proposed Action project site. Typical construction activities associated with development of the Proposed Action would not result in perceptible, let alone excessive, groundborne vibration or groundborne noise levels. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. Therefore, the Proposed Action would not generate excessive groundborne 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.*

The results of the effects of construction-related traffic noise increases on the various servicing roadway segments associated with the Proposed Action site under the: 1) near-term 2012 cumulative conditions; and, 2) near-term 2012 cumulative plus project conditions are presented on Table 4.8-2 and Table 4.8-3. A summary of the findings and potential impact areas is shown on Table 4.8-4. Note that Year 2012 plus project is effectively the existing conditions plus the project scenario as that is when construction activities are anticipated to be fully underway. The construction phase is planned to take 17 months and would begin in September 2011. This would place the construction phase from September 2011 through January 2013. The midpoint of the construction would occur around the summer of 2012. Therefore, the construction phase opening day is taken as year 2012.

TABLE 4.8-2
Traffic Noise Conditions at Construction Start (Year 2012)

Roadway	Segment	ADT	Speed (MPH)	SPL (dBA)	CNEL Contour Distances (feet)			
					75 CNEL	70 CNEL	65 CNEL	60 CNEL
Drew Road	I-8 to SR-98	1,559	45	61.3	6	13	28	61
Brockman Road	McCabe Rd. to SR-98	437	45	55.8	3	6	12	26
	SR-98 to Anza Rd.	89	45	48.9	1	2	4	9
Forrester Road	I-8 to McCabe Rd.	2,503	45	63.4	8	18	39	84
McCabe Road	Brockman Rd. to Forrester Rd.	952	45	59.2	4	10	21	44
Pulliam Road	SR-98 to Anza Road	111	45	49.9	1	2	5	11
SR-98	Drew Rd. to Pulliam Rd.	3,644	45	65.0	11	23	50	108
	Pulliam Rd. to Brockman Rd.	3,644	45	65.0	11	23	50	108
	Brockman Rd. to Clark Rd.	3,675	45	65.1	11	24	51	109

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
Drew Road	I-8 to SR-98	1,661	45	61.6	6	14	30	64
Brockman Road	McCabe Rd. to SR-98	777	45	58.3	4	8	18	39
	SR-98 to Anza Rd.	123	45	50.3	1	2	5	11
Forrester Road	I-8 to McCabe Rd.	2,809	45	63.9	9	20	42	91
McCabe Road	Brockman Rd. to Forrester Rd.	1,292	45	60.5	5	12	25	54
Pulliam Road	SR-98 to Anza Road	757	45	58.2	4	8	18	38
SR-98	Drew Rd. to Pulliam Rd.	3,814	45	65.2	11	24	52	111
	Pulliam Rd. to Brockman Rd.	4,120	45	65.6	12	25	55	118
	Brockman Rd. to Clark Rd.	3,845	45	65.3	11	24	52	113

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
Drew Road	I-8 to SR-98	n/a	0.3	No
Brockman Road	McCabe Rd. to SR-98	n/a	2.5	No
	SR-98 to Anza Rd.	n/a	1.4	No
Forrester Road	I-8 to McCabe Rd.	n/a	0.5	No
McCabe Road	Brockman Rd. to Forrester Rd.	n/a	1.3	No
Pulliam Road	SR-98 to Anza Road	n/a	8.3	Yes*
SR-98	Drew Rd. to Pulliam Rd.	n/a	0.2	No
	Pulliam Rd. to Brockman Rd.	n/a	0.6	No
	Brockman Rd. to Clark Rd.	n/a	0.2	No
CEQA Screening Threshold		3.0	3.0	

Source: ISE, 2010.
* See discussion below.

For each roadway segment analyzed, the worst case average daily traffic volume (ADT) from construction-related traffic and observed/predicted speeds are shown, along with the corresponding reference noise level at 50-feet (in dBA). Additionally, the line-of-sight distance from the roadway centerline to the 60 through 75 CNEL contours are provided as an indication of the worst-case unobstructed theoretical traffic noise contour placement.

As shown in Table 4.8-4, no substantial project-related construction traffic noise increases would occur under the existing conditions Year 2010 because there would be minimal or no project traffic. In the Year 2012, an exceedance of 5.3 dBA above the 3.0 dBA CEQA screening threshold (8.3 dBA CNEL total) would occur on Pulliam Road between State Route 98 and Anza Road. However, there are no sensitive receptors (areas of habitation) along this roadway segment that would be adversely impacted by construction traffic due to the Proposed Action. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. Therefore, construction of the Proposed Action would not expose people to or generate noise levels in excess of standards established by the Imperial County General Plan or the County's noise ordinance. The Proposed Action's construction traffic contribution to off-site roadway noise levels during the construction phase is not considered a significant impact under CEQA. Long-term operational noise levels are discussed below.

As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive birds were observed within the solar energy facility site. See Section 4.12 of this EIR/EA for a detailed discussion on the potential impacts to burrowing owls and other sensitive bird species (non-human sensitive receptor) and mitigation measures that will avoid, minimize, or mitigate potential impacts.

C. Long-Term Operational Noise Levels

Indicator 3: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) the future noise level after the project is completed will be within the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in an increase of 5 dB CNEL or greater; (2) the future noise level after the project is completed will be greater than the "normally acceptable" noise levels shown in Table 3.8-3 for Industrial, Manufacturing, Utilities and Agriculture uses (70 dB) and will result in a noise increase of 3 dB CNEL or greater; (3) community noise exposure will be greater than the "normally acceptable" 70 dB for "Industrial, Manufacturing, Utilities, and Agricultural" category of land use as shown in Table 3.8-3; (4) construction noise will be greater than 75 dB Leq over an eight hour period from the nearest sensitive receptor (see Indicator 1); (5) the project will generate traffic and increase noise levels on off-site roadways above 3.0 dBA measured from the nearest sensitive receptor.*

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

Proposed Action's On-site Operational Noise

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. Table 4.8-5 identifies the typical sound levels for these noise sources. Based on the Table 4.8-5, noise generated during operation of transmission lines and transformers is at the quiet end of the noise spectrum. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB, and they do not exceed any noise level limits.

The Proposed Action would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. This ordinance governs fixed operational noise within the proposed development area. Table 4.8-6 summarizes the relevant requirements.

All onsite fixed uses within the Proposed Action would be required to meet the operational noise standards shown in Table 4.8-6 for all areas within the project site. As described above, the noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone. As such, onsite operational noise would not exceed the standards of the County of Imperial Noise Ordinance. Because the ambient noise increases caused by long-term project operations will be minor, and because the noise exposure will be within the established and relevant standards, the Proposed Action's onsite operation noise is not considered a significant impact under CEQA.

TABLE 4.8-5
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.

TABLE 4.8-6
Operational Noise Standards

Zone	Time	One-Hour Average Sound Level Limit (dBA)
All R-1, All R-2	7:00 am – 10:00 pm 10:00 pm - 7:00 am	50 45
R-3, R-4 and all other residential	7:00 am – 10:00 pm 10:00 pm - 7:00 am	55 50
All Commercial	7:00 am – 10:00 pm 10:00 pm - 7:00 am	60 55
Manufacturing, all other industrial including agriculture and extraction	Anytime	70
General Industrial	Anytime	75

Source: ISE, 2008.

Proposed Action's Off-site Traffic Noise Impacts

The Proposed Action is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Proposed Action is not expected to result in substantial off-site traffic-generated noise impact. Furthermore, as discussed above, the Proposed Action's construction traffic contribution (680 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Proposed Action, would not result in a significant off-site traffic noise impact under CEQA.

D. Noise Impacts on Airports

Indicator 5: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; would the project expose people residing or working in the project area to excessive noise levels.*

Indicator 6: *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

No portion of the Proposed Action is located within an airport land use plan or within two miles of a public airport; therefore, no significant noise impact under CEQA associated with airport activity would result.

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.

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).*

The noise generated by the construction of the Alternative 1-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line corridor and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 1-Alternative Transmission Line Corridor will generate short-term noise associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The loudest equipment expected to operate would be equipment used during the grading process. Based on the worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time, the average daily construction noise level would vary between 44 and 48 dBA Leq-h or less at any sensitive receptor area. Noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed 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, because the noise generated by the construction activities will not reach the 75 dB Leq threshold at the nearest sensitive receptor (even using a worst-case scenario), noise generated during construction activities is not considered significant under CEQA.

Groundborne Vibration

Indicator 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

The primary vibratory source during site clearing and grading activities of construction will be large bulldozers. Based on published data, typical bulldozer activities generate an approximate vibration of 87 VdB at a distance of 25 feet. No residences are within 25 feet of any component of the Proposed Action project site. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. 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.*

An exceedance above the 3.0 dBA CEQA screening threshold would occur on Pulliam Road between State Route 98 and Anza Road. However, there are no sensitive receptors (areas of habitation) along this roadway segment that would be adversely impacted by construction traffic associated with Alternative 1-Alternative Transmission Line Corridor. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. There will be no exposure of persons or generation of noise levels in excess of the relevant standards, and no substantial short-term increases in ambient noise levels near off-site roads. Therefore, the project'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.*

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 substantial off-site traffic generated noise impact. Furthermore, as discussed above, the Alternative 1-Alternative Transmission Line Corridor's construction traffic contribution (680 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Alternative 1-Alternative Transmission Line Corridor would not result in a significant off-site traffic noise impact under CEQA.

D. Noise 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.*

No portion of the project under Alternative 1-Alternative Transmission Line Corridor is located within an airport land use plan or within two miles of a public airport; therefore, no significant noise impact associated with airport activity would result under CEQA.

No portion of the project under Alternative 1-Alternative Transmission Line Corridor is located within the vicinity of a private airstrip; therefore, no significant noise impact associated with airport activity would result under CEQA.

4.8.1.3 Alternative 2- Reduced Solar Energy Facility Site

A. Construction Noise

Indicator 1: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The noise generated by the construction of the Alternative 2-Reduced Solar Energy Facility Site includes all project components comprising of the solar energy facility site, transmission line corridor and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 2-Reduced Solar Energy Facility Site will generate short-term noise associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The loudest equipment expected to operate would be equipment used during the grading process. Based on the worst-case assumption of several large (and loud) pieces of construction equipment operating on the project site at the same time, the average daily construction noise level would vary between 44 and 48 dBA Leq-h or less at any sensitive receptor area. Noise associated with construction equipment would not exceed the 75 dB Leq threshold identified in the County of Imperial Noise Element; thus, it would not be deemed impactive or disturbing to potential adjacent sensitive receptors (areas of habitation) per the requirements by the County of Imperial. However, the nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. There will be no exposure of persons or generation of noise levels in excess of the relevant standards, and no substantial short-term increases in ambient noise levels near off-site roads. 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. No residences are immediately adjacent to, or in proximity to, the project site. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The

second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. Typical construction activities associated with development of the project under Alternative 2-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.*

An exceedance above the 3.0 dBA CEQA screening threshold would occur on Pulliam Road between State Route 98 and Anza Road. However, there are no sensitive receptors (areas of habitation) along this roadway segment that would be adversely impacted by construction traffic associated with Alternative 2-Reduced Solar Energy Facility Site. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site. Therefore, this project alternative'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.*

Alternative 2-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 2-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 2-Reduced Solar Energy Facility Site is not considered a significant impact under CEQA.

Alternative 2-Reduced Solar Energy Facility Site Off-site Traffic Noise Impacts

Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Alternative 2-Reduced Solar Energy Facility Site is not expected to result in a substantial off-site traffic generated noise impact. Furthermore, as discussed above, the Alternative 2-Reduced Solar Energy Facility Site's construction traffic contribution (680 ADT) to off-site roadway noise levels during the construction phase is not considered a substantial impact. Therefore, it can be concluded that the 15 vehicle trips during the operational phase of the Alternative 2-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.*

No portion of the project under Alternative 2-Reduced Solar Energy Facility Site is located within an airport land use plan or within two miles of a public airport; therefore, no significant noise impact under CEQA associated with airport activity would result.

No portion of the project under Alternative 2-Reduced Solar Energy Facility 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- No Action/No Project Alternative

The project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on noise from the Alternative 3-No Action/No Project Alternative.

4.8.1.5 CEQA Summary

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

Alternative 3-No Action/No Project Alternative will not result in noise impacts under CEQA. Therefore, no mitigation is required.

4.8.2 NEPA Environmental Assessment Summary

4.8.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

During the construction phases of the solar field facilities, transmission line corridor, and the access road, short-term noise will be generally associated with the operation of construction equipment. Construction equipment will include dozers, water trucks, concrete trucks, dump/haul trucks, scrapers, track backhoe, loader/driller, skid steer cat, paver, and a roller. The degree of impacts will be dictated by the amount of construction equipment used, the density of heavy equipment, the proximity to a noise sensitive land use area, and the duration of the grading process. In any case there will be short-term direct impacts to casual users of public lands during the construction of the solar facility, the transmission line and the access road.

General grading and construction activity noise levels for various pieces of equipment are shown in Figure 4.8-1 above. Noise levels emanating from a single source typically fall off at a rate of 6 dB for every doubling of distance from the source. At a distance of 200 feet, the noise levels shown in Figure 4.8-1 are approximately 12 dBA less; at a distance of 1,000 feet, the levels are about 25dBA less. The loudest equipment expected to operate would be equipment used during the grading process.

As identified above, noise associated with construction equipment would not exceed 75 dB Leq, thus it would not be disturbing to potential adjacent sensitive receptors (areas of habitation) (NEPA Indicator #1). The project site is not located in proximity of sensitive land uses, including residential structures. The nearest residence is 1,300 feet away, on Anza Road, from the closest portion of the project site. The second closest residence is approximately 5,000 feet away and there are less than 10 residences within 2 miles of the project site.

Sensitive species such as bird species are sensitive receptors that may also be impacted by noise from the construction and operation of the Proposed Action. As discussed in Section 3.12 of this EIR/EA, burrowing owls and other sensitive 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.

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 (NEPA Indicator #2). 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. No residences are within 25 feet of any component of the Proposed Action project site. As mentioned above, the nearest residence is 1,300 feet away and therefore, the Proposed Action would not generate excessive groundborne vibration or groundborne noise levels.

As shown in Table 4.8-4 above, no substantial project-related construction traffic noise increases would occur under the existing conditions (Year 2010) because there would be minimal or no project traffic. In the Year 2012, an exceedance of 5.3 dBA above the 3.0 dBA CEQA screening threshold (8.3 dBA CNEL total) would occur on Pulliam Road between State Route 98 and Anza Road (NEPA Indicator #3). However, there are no sensitive receptors (areas of habitation) along this roadway segment that would be adversely impacted by construction traffic due to the Proposed Action.

Noise from the solar energy facility during operations will be limited to light duty vehicle traffic for security patrols, maintenance staff and solar panel wash crews. The operation of high voltage transmission lines and transformers generate a low level of noise. Table 4.8-5 above identifies the typical sound levels for

these noise sources. Based on the Table 4.8-5, noise generated during operation of transmission lines and transformers is at the quiet end of the noise spectrum. The sound level that light auto traffic, transformer, and transmission lines generate is 55 dB, 40 dB, and 20 dB, respectively. These types of activities generate less sound compared to conversational speech, which generates 60 dB, and they do not exceed any noise level limits (NEPA Indicator #3). All onsite fixed uses within the Proposed Action would be required to meet the operational noise standards shown in Table 4.8-6 above for all areas within the project site. As described above, the noise generated during operations would be at low levels and would be below the 70 dBA noise level for the "Manufacturing, all other industrial including agriculture and extraction" zone (NEPA Indicator #3).

The Proposed Action is expected to generate a total of 15 vehicle trips per day during the operational phase. The vehicle trips per day would be minimal due to the minimal amount of workers (four full-time employees) required for the Proposed Action during operations. As such, the Proposed Action is not expected to result in a substantial off-site traffic generated noise impact (NEPA Indicator #4).

B. Alternative 1-Alternative Transmission Line Corridor

The noise generated by the construction of the Alternative 1-Alternative Transmission Line Corridor includes all project components comprising of the solar energy facility site, transmission line corridor and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 1-Alternative Transmission Line Corridor will generate short-term noise associated with the operation of construction equipment.

C. Alternative 2-Reduced Solar Energy Facility Site

The noise generated by the construction of the Alternative 2-Reduced Solar Energy Facility Site includes all project components comprising of the solar energy facility site, transmission line corridor and access road. Similar to the Proposed Action, the construction phases of the project under Alternative 2-Reduced Solar Energy Facility Site will generate short-term noise associated with the operation of construction equipment.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.6.1.5, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts with regards to noise levels from the Alternative 3-No Action/No Project Alternative

4.8.3 Mitigation Measures and Residual Impacts

No mitigation measure is proposed, as no significant noise impacts under CEQA have been identified for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2- Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative. For purposes of NEPA, no adverse noise impact has been identified for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2- Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative.

4.8.3.1 Impact Analysis of Mitigation Measures

No mitigation is proposed therefore there would be no impacts associated with mitigation.

4.8.3.2 Residual Impact Analysis of Mitigation Measures

No mitigation is proposed therefore there would be no residual impacts associated with mitigation.

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4.9 Agricultural Resources

CEQA Significance Criteria

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

Indicator 1: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use;*

Indicator 2: *Conflict with existing zoning for agricultural use, or a Williamson Act contract; or,*

Indicator 3: *Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.*

Appendix G of the CEQA Guidelines also identifies the California Agricultural Land Evaluation and Site Assessment (LESA) Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. A LESA evaluation (Appendix F of this EIR/EA) was prepared for the Proposed Action as discussed under Section 4.9.1.

NEPA Methodology

Evaluation of potential impacts of the Proposed Action to Agricultural resources is mainly based on the CEQA requirements. Neither the CDCA nor any subsequent plan have address agricultural use as a resource to be managed and analyzed. Accordingly, the solar facility which is under the purview of Imperial County is the only component with a direct or indirect impact to agricultural resources. Therefore the analysis for NEPA is informational and reviewed within the context of the solar facility. Since the transmission line will be located in an area already designated for that use, there is no conflict with any agricultural resource.

4.9.1 Environmental Consequences

The following is the agricultural resources analysis for the solar energy facility portion of the Proposed Action and alternatives. A detailed analysis is not provided for the transmission line corridor and access road components, as these components are located within BLM lands. No portion of the Proposed Action and alternatives located within BLM lands is utilized for agriculture. Furthermore, the CDCA prohibits agricultural uses in this area. Therefore, no impacts to agricultural resources are identified as a result of the transmission line and access road components located on BLM lands.

4.9.1.1 Proposed Action

Indicator 1: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.*

Implementation of the Proposed Action would result in the temporary conversion of approximately 820.7 net acres of buildable land currently in agricultural production to non-agricultural uses. Approximately

478.9 acres is identified as Prime Farmland and 341.8 acres is identified as Farmland of Statewide Importance. Permanent loss of Prime Farmland and Farmland of Statewide Importance is considered a potentially significant impact under CEQA. The implementation of the Proposed Action's project design features and Mitigation Measure AR1 would prevent a permanent loss of these valuable farmlands.

A California Agricultural Land Evaluation and Site Assessment (LESA) Model Analysis was prepared for the Proposed Action and is provided as Appendix F on the attached CD of Technical Appendices found on the back cover of this EIR/EA. The LESA Model is an approach used to rate the relative quality of land resources based upon six specific measurable features. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Table 4.9-1 provides a summary of the LESA analysis. Based on the LESA analysis, the conversion of existing farmlands on the project site to other uses is considered a significant impact under CEQA. Implementation of Mitigation Measure 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	63.9	0.25	15.96
2. Storie Index Rating	42.0	0.25	10.5
Land Evaluation (LE) Subscore			*26.5*
Site Assessment (SA)			
1. Project Size	100	0.15	15
2. Water Resource Availability	100	0.15	15
3. Surrounding Agricultural Lands	40	0.15	6
4. Protected Resource Lands	0	0.05	0
Site Assessment (SA) Subscore			*36*
Grand Total			62.5
II. CALIFORNIA LESA MODEL SCORING THRESHOLDS			
Total LESA Score	Scoring Decision		
0 TO 39 Points	Not Considered Significant		
40 to 59 Points	Considered Significant <u>only</u> if LE and SA subscores are <u>greater</u> than or equal to 20 points.		
60 to 79 Points	Considered Significant <u>unless</u> either LE or SA subscore is <u>less</u> than 20 points.		
80 to 100 Points	Considered Significant		
III. SIGNIFICANCE DETERMINATION			
Significant. The LESA score is 62.5 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 General Agricultural Rural Zone (A-2-R) and Heavy Agriculture (A-3). Pursuant to the Imperial County General Plan, the site is located within land designated for agricultural uses. With implementation of the Proposed Action, land previously used for agriculture would be converted 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. 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.

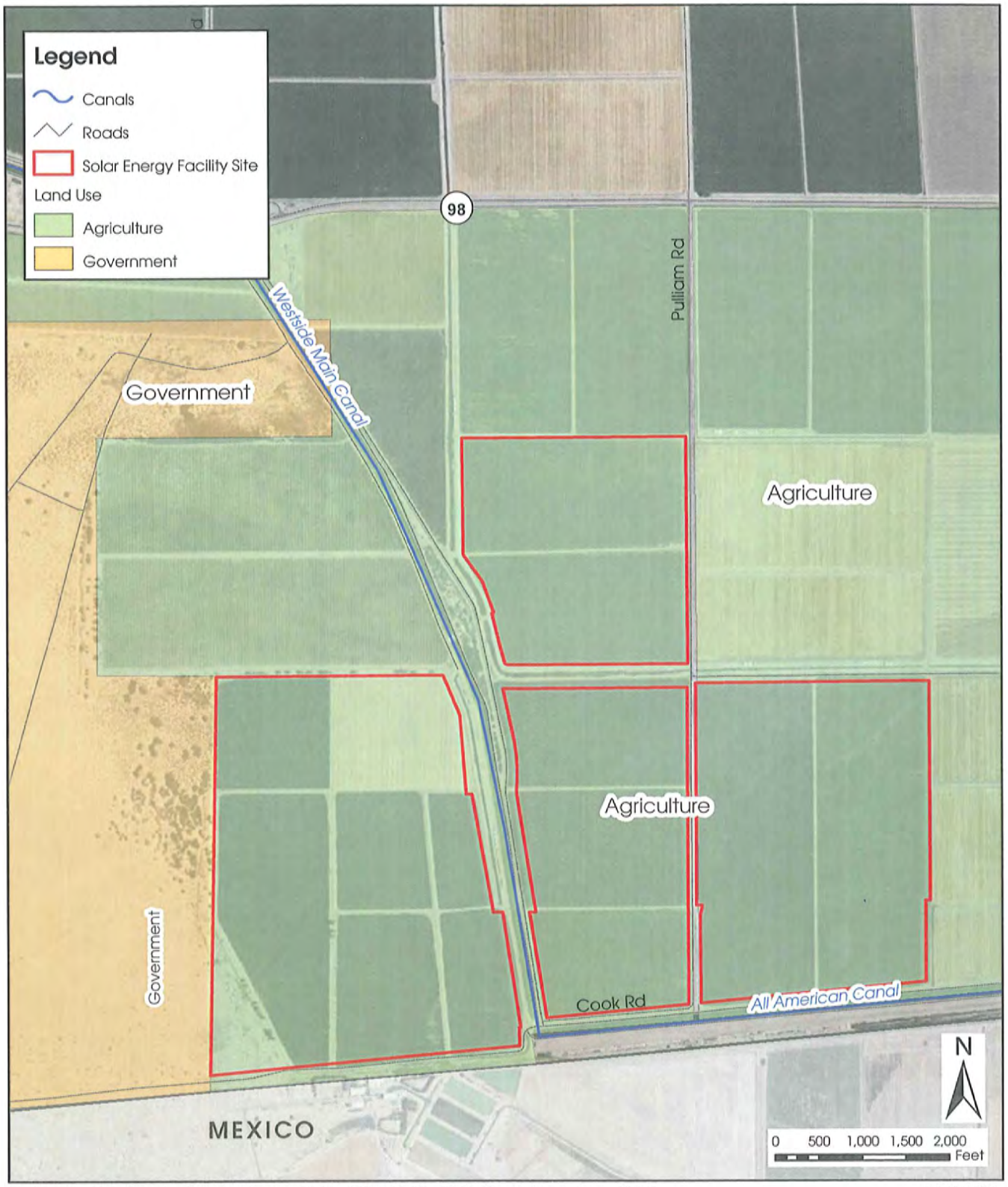
C. Conversion of Adjacent Agricultural Land

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, agricultural land uses adjoin the solar energy facility site on the northern and eastern boundaries. The Proposed Action is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses because the project is a unique use in that it is a solar energy facility, and does not include the development of housing on-site that could contribute to growth-inducement. The County of Imperial General Plan designates the project site as Agriculture. Potential nuisance issues typically associated with farming include noise, dust, odor, and pesticide application which can affect the project site. However, the proposed use is permitted within the Agriculture zone and no permanently occupied structures are proposed. Therefore, this issue is not considered significant under CEQA. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Civil 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.



SOURCE: U.S. Dept of Agriculture, 2008; ESRI, 2010; BRG Consulting, Inc., 2010 10/12/10

BRG CONSULTING, INC.

Imperial Solar Energy Center South

Agriculture Parcels within
0.25 Miles of Solar Energy Facility Site

FIGURE
4.9-1

F:\projects\1009 Imperial Solar South\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.	Consistent: The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses, but mitigation is provided to prevent a permanent conversion.
Objective 1.1- Maintain existing agricultural land uses outside of urbanizing areas and allow only those land uses in agricultural areas that are compatible with agricultural activities.	Consistent: The Proposed Action uses are compatible with existing surrounding agricultural uses.
Objective 1.2- Encourage the continuation of irrigation agriculture on Important Farmland.	Consistent: The project would temporarily convert Important Farmland on-site to non-agricultural uses, but the project's indirect impact reduces the need for IID to fallow irrigated lands elsewhere in the County to meet IID water conservation goals.
Objective 1.3- Conserve Important Farmland for continued farm related (non-urban) use and development while ensuring its proper management and use.	Inconsistent: The project would convert Important Farmland to non-agricultural uses and mitigation is required.
Objective 1.4- Discourage the location of development adjacent to productive agricultural lands.	Consistent: The Proposed Action would develop a solar facility adjacent to productive agricultural lands. However, this development would not include a residential component. In addition, the Proposed Action is an allowable use within the project site's agricultural zoning (subject to the issuance of a Conditional Use Permit) , and the zoning of the site is consistent with the land use designation for the project site.
Objective 1.5- Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.	Consistent: The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. However, with the issuance of a conditional use permit, the proposed use would be consistent with Imperial County's Land Use Ordinance and thus is also consistent with the land use designation of the site. In addition, mitigation is

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
	required to prevent permanent conversion of valuable farmland.
Objective 1.6- Recognize and preserve unincorporated areas of the County, outside the city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.	Consistent: The project would temporarily convert 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.
Objective 1.8- Allow conversion of agricultural land to non-agricultural uses only where a clear and immediate need can be demonstrated, based on population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show lack of alternative sites.	Consistent: The project site is designated as an agriculture land use. With approval of a conditional use permit, the Proposed Action would be consistent with the County's Land Use Ordinance. Therefore, because the project would be consistent with the Land Use Ordinance, it would also be consistent with the general plan land use designation.
Goal 2- Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of non-agricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent: The project site is designated as an agriculture land use. The project site is located adjacent to agriculture and BLM lands. The Proposed Action is the construction and operation of a solar facility and would not contain a residential component that would induce urbanization adjacent to the project site. Furthermore, with the issuance of a conditional use permit the project is consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the general plan land use designation.
Objective 2.1- Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent: Development of the project site would include construction and operation of a solar facility. Construction nor operation of the solar facility would not make it difficult to economically or conveniently farm. After project implementation the adjacent agricultural fields would remain contiguous to one another and not become isolated.
Objective 2.2- Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent: The Proposed Action site is the construction and operation of a solar facility. The Proposed Action is

COUNTY OF IMPERIAL GENERAL PLAN GOAL OR OBJECTIVE	CONSISTENCY ANALYSIS
	an industrial use and would not induce growth in the area nor result in the expansion of urban boundaries.
Objective 2.3- Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent: The Proposed Action would temporarily convert agricultural land to non-agricultural uses. However, the Proposed Action would not be subdivided into smaller parcels. The size of the existing parcels would be retained.
Objective 2.4- Discourage the parcelization of large holdings.	Consistent: See response to Objective 2.3 above.
Objective 2.6- Discourage the development of new residential or other non-agricultural areas outside of city "sphere of influence" unless designated for non-agricultural use on the County General Plan, or for necessary public facilities.	Consistent: With approval of a conditional use permit, the Proposed Action is 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 an allowable use in 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 noxious 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 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."

> County Policy: Per County policy, Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated except as provided in Exhibit C shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process.
>
> *The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this element) before granting final approval of any proposal which removes land from the Agriculture category.*

The property's land use designation is not being removed from the Agriculture Category use allowed within the land use zoning and will return to agricultural use within a zoning or land use designation change.

County Policy: Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

> "Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts to the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in Cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

The solar energy facility site is designated by the General Plan as "Agriculture" and is an allowable use 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. 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 that do not meet these criteria should not be approved.*

The Proposed Action would not directly impact the movement of agricultural equipment on roads located within the Agriculture category. As part of the Proposed Action, an existing dirt access road located along the Westside Main Canal will be improved to enable trucks to safely travel along the road from SR-98 to the solar energy facility site. As such, the improvement of the existing access road will not impact the movement of agricultural equipment and products and 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 project is not immediately surrounded by sensitive receptors such as residential dwellings. The project is surrounded by the U.S. international Mexico border to the south, BLM lands immediately to the west, and agricultural land to the north and east. 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 the Alternative 1-Alternative Transmission Line Corridor would result in the temporary conversion of the same amount of farmland currently in agricultural production to non-agricultural uses as the Proposed Action. Under Alternative 1-Alternative Transmission Line Corridor, the proposed transmission line corridor would be modified, which is located within BLM lands and no agricultural resources are present in this area. The CDCA prohibits agricultural uses in this area. The solar energy facility site would be the same size under Alternative 1-Alternative Transmission Line Corridor as the Proposed Action; therefore, agricultural impacts would be the same. Approximately 478.9 acres of Prime Farmland and 341.8 acres of Farmland of Statewide Importance would be converted to non-agricultural uses. 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.

With implementation of Alternative 1-Alternative Transmission Line Corridor, land previously used for agriculture would be converted 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. 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 1-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, agricultural land uses adjoin the solar energy facility site on the northern and eastern boundaries.

As with the Proposed Action, 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 because the project is a unique use in that it is a solar energy facility, and does not include the development of housing on-site that could contribute to growth-inducement. The County of Imperial General Plan designates the project site as Agriculture. Potential nuisance issues typically associated with farming include noise, dust, odor, and pesticide application which can affect the project site. However, the proposed use is permitted within the Agriculture zone and no permanently occupied structures are proposed. Therefore, this issue is not considered significant under CEQA. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Civil 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 – 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 2-Reduced Solar Energy Facility Site would reduce the amount of land currently in agricultural production that would be converted to non-agricultural uses as compared to the Proposed Action. Approximately 340.12 acres of Prime Farmland and 118.65 acres of Farmland of Statewide Importance would be temporarily converted to non-agricultural uses. Based on the LESA analysis prepared for Alternative 2-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 2-Reduced Solar Energy Facility Site. Implementation of Mitigation Measure AR1-Alt 2 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.

With implementation of Alternative 2-Reduced Solar Energy Facility Site, land previously used for agriculture would be converted 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. 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-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, agricultural land uses adjoin the solar energy facility site on the northern and eastern boundaries.

TABLE 4.9-3
LESA Analysis Summary – Alternative 2

	Factor Rating (0-100 Points)	Factor Weighting (Total = 1.00)	Weighted Factor Rating
I. SCORE SHEET SUMMARY			
Land Evaluation (LE)			
1. Land Capability Classification	66.08	0.25	16.52
2. Storie Index Rating	45.97	0.25	11.49
Land Evaluation (LE) Subscore			*28.01*
Site Assessment (SA)			
1. Project Size	100	0.15	15
2. Water Resource Availability	100	0.15	15
3. Surrounding Agricultural Lands	40	0.15	6
4. Protected Resource Lands	0	0.05	0
Site Assessment (SA) Subscore			*36*
Grand Total			64.01
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 64.01 and the LE and SA are both more than 20 points.			

Source: BRG Consulting, Inc., 2010.

As with the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site is not considered to have an impact related to the conversion of farmlands off-site to non-agricultural uses because the project is a unique use in that it is a solar energy facility, and does not include the development of housing on-site that could contribute to growth-inducement. The County of Imperial General Plan designates the project site as Agriculture. Potential nuisance issues typically associated with farming include noise, dust, odor, and pesticide application which can affect the project site. However, the proposed use is permitted within the Agriculture zone and no permanently occupied structures are proposed. Therefore, this issue is not considered significant under CEQA. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Civil Code Sub-Section 3482) will be enforced. Therefore, Alternative 2-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 2-Reduced Solar Energy Facility Site would involve the conversion of less 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.

As with the Proposed Action, Alternative 2-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.

4.9.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no impacts on agricultural resources from the Alternative 3-No Action/No Project Alternative.

4.9.1.5 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site will result in a project-specific impact related to the loss of agricultural land and significant farmland, and conflict with General Plan goals, objectives, and policies. However, implementation of Mitigation Measure AR1 (Proposed Action and Alternative 1-Alternative Transmission Line Corridor) and AR1-Alt 2 (Alternative 2-Reduced Solar Energy Facility Site) as identified below under 4.9.3, will reduce the impact to agricultural resources to a level of less than significant under CEQA. The mitigation options identified in Mitigation Measures AR1 and AR1-Alt 2 would achieve the County's General Plan Goals of protection, preservation, and enhancement of agricultural and open space lands.

The Alternative 3-No Action/No Project Alternative will not result in impacts to agricultural resources. Therefore, no mitigation is required.

4.9.2 NEPA Environmental Assessment Summary

4.9.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.9.1.1, the Proposed Action, solar facility, would directly convert agricultural lands designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses (NEPA Indicator #1).

The proposed solar energy facility portion of the project site is located within land designated for agricultural uses. With implementation of the Proposed Action, land previously used for agriculture would be converted to non-agricultural uses. Furthermore, there are no lands under Williamson Act contracts within the site and the Proposed Action would not directly or indirectly result in the conversion of Williamson Act contracted property to a non-agricultural use. (NEPA Indicator #2).

No portion of the Proposed Action located within BLM lands is utilized for agriculture. As such, development of the Proposed Action would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use (NEPA Indicator #1); conflict with existing zoning for agriculture use, or a Williamson Act contract (NEPA Indicator #2); or, involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agriculture use (NEPA Indicator #3).

B. Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would directly convert agricultural lands designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses (NEPA Indicator #1). Implementation of Mitigation Measure AR1 will reduce the effect on agricultural resources.

The proposed solar energy facility portion of the project site is located within land designated for agricultural uses. With implementation of the Alternative 1-Alternative Transmission Line Corridor, land previously used for agriculture would be converted to non-agricultural uses. Furthermore, there are no lands under Williamson Act contracts within the site and Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly result in the conversion of Williamson Act contracted property to a non-agricultural use (NEPA Indicator #2).

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly convert farmlands off-site to non-agricultural uses because the project is a unique use in that it is a solar energy facility, and does not include the development of housing on-site that could contribute to growth-inducement. The proposed use is permitted within the Agriculture zone and no permanently occupied structures are proposed.

No portion of the Alternative 1-Alternative Transmission Line Corridor located within BLM lands is utilized for agriculture. As such, development of the Alternative 1-Alternative Transmission Line Corridor would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use (NEPA Indicator #1); conflict with existing zoning for agriculture use, or a Williamson Act contract (NEPA Indicator #2); or, involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agriculture use (NEPA Indicator #3).

C. Alternative 2-Reduced Solar Energy Facility Site

Based on the analysis provided above under Section 4.9.1.3, similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site would directly convert agricultural lands designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses (NEPA Indicator #1). However, since the project footprint would be reduced, those impacts would be reduced accordingly.

The proposed solar energy facility portion of the project site is located within land designated for agricultural uses. With implementation of Alternative 2-Reduced Solar Energy Facility Site, land previously used for agriculture would be converted 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 designation of the site. Furthermore, there are no lands under Williamson Act contracts within the site and Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly result in the conversion of Williamson Act contracted property to a non-agricultural use (NEPA Indicator #2).

No portion of the Alternative 2-Reduced Solar Energy Facility Site located within BLM lands is utilized for agriculture. As such, development of the Alternative 2-Reduced Solar Energy Facility Site would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use (NEPA Indicator #1); conflict with existing zoning for agriculture use, or a Williamson Act contract (NEPA Indicator #2); or, involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agriculture use (NEPA Indicator #3).

4.9.3 Mitigation Measures and Residual Impacts

4.9.3.1 Proposed Action

The following mitigation measure has been identified to reduce the agricultural resources impact associated with the Proposed Action.

AR1 Prior to the issuance of a grading permit or building permit (whichever permit comes first) for the Proposed Action, the mitigation of impact to agricultural lands shall be accomplished via one of the following as determined by the Permittee:

The "Imperial Solar Energy Center South" project will result in the permanent loss of 820.7 acres of agricultural lands (prime farmland and farmland of statewide importance) and the following mitigation measures shall apply:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 2 to 1 basis for all 820.7 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 820.7 acres based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee will be placed in a trust account administered by the Planning and Development Services Department and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County.

Option 3: The Permittee shall submit to the County of Imperial a reclamation plan to return the property to its current agricultural condition prior to the issuance of any

building permits. The reclamation plan shall include a reclamation cost estimate prepared by a licensed general contractor or civil engineer. The Applicant shall provide financial assurance in the amount equal to the reclamation cost estimate to return the land to its current agricultural condition prior to the issuance of any building permits.

4.9.3.2 Alternative 1-Alternative Transmission Line Corridor

The mitigation for Alternative 1-Alternative Transmission Line Corridor would be the same as the Proposed Action.

4.9.3.3 Alternative 2-Reduced Solar Energy Facility Site

The following mitigation measure has been identified to reduce the agricultural resources impact associated with Alternative 2-Reduced Solar Energy Facility Site.

AR1-Alt 2 Prior to the issuance of a grading permit or building permit (whichever permit comes first) for the Alternative 2-Reduced Solar Energy Facility Site, the mitigation of impact to agricultural lands shall be accomplished via one of the following as determined by the Permittee:

The "Imperial Solar Energy Center South" project will result in the permanent loss of 458.77 acres of agricultural lands (prime farmland and farmland of statewide importance) and the following mitigation measures shall apply:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 2 to 1 basis for all 458.77 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 458.77 acres based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Planning and Development Services Department and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County.

Option 3: The Permittee shall submit to the County of Imperial a reclamation plan to return the property to its current agricultural condition prior to the issuance of any building permits. The reclamation plan shall include a reclamation cost estimate prepared by a licensed general contractor or civil engineer. The Applicant shall provide financial assurance in the amount equal to the reclamation cost estimate to return the land to its current agricultural condition prior to the issuance of any building permits.

4.9.3.4 Alternative 3-No Action/No Project Alternative

No mitigation is proposed under the Alternative 3-No Action/No Project Alternative, as no direct or indirect impacts on agricultural resources would occur.

4.9.3.5 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure AR1-Alt 2: Option 1:

Implementation of Mitigation Measure AR1-Alt 2: Option 1 would not result in a direct or indirect impact because procurement of the Agricultural Conservation Easement would occur on existing agricultural land within the County of Imperial.

Impact Analysis of Mitigation Measure AR1-Alt 2: Option 2

Implementation of Mitigation Measure AR1-Alt 2: Option 2 is a payment of an "Agricultural In-Lieu Fee Mitigation Fee" and would not result in a direct or indirect impact because these funds would be used on existing agricultural within the County of Imperial.

Impact Analysis of Mitigation Measure AR1-Alt 2: Option 3

Implementation of Mitigation Measure AR1-Alt 2: Option 3 is the preparation of a reclamation plan and payment of fees associated with the implementation of the plan. Implementation of the reclamation plan would not result in a direct or indirect impact because the site would be reverted back to its current agricultural condition.

4.9.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above, as well as those impacts not adversely affecting agricultural resources.

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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, 920-Acre Imperial Valley South Property, Imperial County, California* prepared by Tetra Tech, Inc. (February 2010). This document is provided on the attached CD of Technical Appendices as Appendix G of this EIR/EA.

CEQA Significance Threshold/NEPA Indicators

For the purpose of this EIR/EA, a significant Health, Safety and Hazardous Materials impact, under CEQA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-No Action/No Project Alternative *would:*

Indicator 1: *Be included on a list of hazardous materials sites;*

Indicator 2: *Release hazardous materials into the environment in an amount or at a level that would create a hazard to the public or the environment*[1]*;*

Indicator 3: *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*

Indicator 4: *Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment*[2]*;*

Indicator 5: *Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area;*

Indicator 6: *Be located within an airport land use plan or within two miles of a public airport or public use airport;*

Indicator 7: *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; and*

Indicator 8: *Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

[1] The language of this CEQA significance/NEPA indicator has been modified to more accurately characterize the evaluation of associated potential impacts in the impacts analysis. Textual revisions to this indicator do not change the impact analysis and do not change the impact determinations associated with this indicator. The text has been modified to more closely follow Hazards and Hazardous Materials (b) in Appendix G of the CEQA Guidelines, which states: "Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment." Also, see the Foreword in this EIR/EA for discussion of revisions to the DEIR/EA.

[2] The language of this CEQA significance/NEPA indicator has been modified to more accurately characterize the evaluation of associated potential impacts in the impacts analysis. Textual revisions to this indicator do not change the impact analysis and do not change the impact determinations associated with this indicator. The text has been modified to more closely follow Hazards and Hazardous Materials (a) in Appendix G of the CEQA Guidelines, which states: "Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials." Also, see the Foreword in this EIR/EA for discussion of revisions to the DEIR/EA.

NEPA Methodology

Evaluation of potential impact of the Proposed Action on *Health, Safety and Hazardous Materials* is based on review of relevant planning documents, including the California Desert Conservation Area Plan, Imperial County General Plan, the Imperial County Land Use Ordinance, the Federal Land Management Policy Act, and a field review of the project site and surrounding area. The focus of the analysis is on impacts that would result from implementation of the proposed project. Potential hazards are addressed in the context of possible impacts to the health and safety of the public. Impacts identified and evaluated based on existing practices, information provided by the applicant and other information included as part of the project, and standards and policies related to the proposed use. The indictors listed above are provided to indicate the context of potential impacts. They are used to show the relation of the Proposed Action to the Existing Setting and provide a background against which to relate the analysis. Some of the indicators are representative of intensity in the level of impact and potential for impacts of the Proposed Action on the health and safety of the public.

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 energy facility portion of the project site include pesticides and herbicides, and scattered trash and debris. 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 in an amount or at a level that would create a hazard to the public or the environment.

Potential for Release of Pesticides/Herbicides Already Existing on the Project Site

The solar energy facility portion of the project site was previously and currently used for agricultural purposes, and has been subject to historic application of herbicides and pesticides. As a result, there is a potential for residual, low-level concentrations of these substances to be present in soil and/or groundwater. The Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Under FIFRA, all pesticides that are distributed or sold in the United States must be registered (licensed) by EPA. Before EPA may register a pesticide, the applicant must show, among other things, that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." As a result of regulations implemented under Section 307 (a) of the Clean Water Act and the State Porter-Cologne Act (See, Cal. Water Code Sections 13172, 13173.2, Cal. Health and Safety Code Section 25140), pesticide and herbicide applications are trending away from legacy chemicals that

can take years to degrade. Many legacy pesticides, such as DDT, which may have been used decades ago have fully degraded and no longer present a hazard, nor will they do so soon. (See, Pfafflin, J.R., Ziegler, E.N. Encyclopedia of Environmental Science and Engineering, Volume 2. P. 962 (2006) (showing that it takes approximately 4-10 years to achieve 70-95% loss of DDT in soil.) Furthermore, the topsoil in the Operations and Maintenance building will be removed properly off-site in accordance with current, local, state, and federal disposal regulations. The topsoil presumably contains much of the chemical residue. As such, the removal of the topsoil would minimize the exposure of the public and the environment to pesticides and herbicides. For all these reasons, the impact to the public and the environment as a result of any potential presence of agricultural chemicals on the project site is considered minimal. Therefore, a less than significant impact under CEQA is identified for this issue and no further action is required.

Potential Impacts from Clean-up of Trash and Debris Currently Existing on Project Site

An abundant amount of trash and debris has been scattered throughout the solar energy facility site, particularly along the access roads on the project site. Improper cleanup and disposal of this debris has the potential to harm the public and the environment, which would be considered a significant environmental impact under CEQA. Implementation of Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state and federal disposal regulations, would reduce the potential impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash is discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Based on a review of the EDR prepared for the project site, no sites were found within the requested search radii. The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. Thirty-eight orphan sites were identified in the EDR and individually evaluated by Tetra Tech, Inc. However, none of the orphan sites was identified within a one-mile radius of the project site (American Society of Testing and Materials (ASTM) standard search distances). All 38 of the orphan sites are located over two miles from the project site. As such, the potential for adjacent properties to affect the Proposed Action through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Proposed Action

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

See Section 4.4 of this EIR/EA for a discussion of project emissions during the construction and operation phases of the Proposed Action. In any case, no component of the Proposed Action would emit hazardous emissions. Also, no component of the Proposed Action is located within one-quarter mile of an existing or proposed school. Therefore, no significant impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The hazardous materials used during the construction phase will be typical of most construction projects of this type. Such materials will include gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. All hazardous materials would be stored on-site in vessels/containers that are specifically designed for the characteristics of the materials to be stored; as appropriate, the storage facilities would include secondary containment. All hazardous materials will be required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control (DTSC), and Certified United Program Agencies (CUPA). Prior to construction, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor and access road). The HMMP will be in accordance with Federal and State requirements. At a minimum, the HMMP will include procedures for hazardous material handling, use and storage; emergency response; spill control and prevention; employee training; and, record keeping and reporting. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during construction of the Proposed Action.

Limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy 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 under CEQA is identified related to the transport and use of hazardous materials during operation of the Proposed Action.

When depleted or used, limited quantities of the hazardous materials described above may require disposal as hazardous waste. Typical project hazardous solid and liquid waste streams generated during operations may include empty containers, spent batteries, oil sorbent and spent oil filters, oily rags, and used hydraulic fluid, oils, and grease. To the extent feasible, these wastes will be recycled; only permitted and licensed recycling facilities will be used. If recycling is not possible, some hazardous solid wastes may be disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous wastes shipped off-site for recycling or disposal will be transported by a licensed and permitted hazardous waste hauler. 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 energy facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used

improperly. Implementation of Mitigation Measure HM2 will reduce the impact of routine herbicide use on the solar energy facility such that it would not create a hazard to the public or the environment, thus reducing the impact to a level less than significant under CEQA. Mitigation Measure HM2 requires that a weed control plan be developed and approved by the Imperial County Agricultural Commissioner. The Agricultural Commissioner's Office enforces the permitting and monitoring of pesticide and herbicide use to ensure legal and safe use of products. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP). The implementation of the weed management plan, as detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

The project will include a single O&M building located adjacent to the solar energy facility. A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site (approximately four full-time employees). This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system on the project site. With obtainment of the septic system permit, the project will comply with Department of Environmental Health Services requirements. Therefore, no significant impact under CEQA is identified for this issue area.

The solar energy facility inverters and transformers may be contained in metal or concrete structures, which would be designed to meet National Electric Manufacturers Association (NEMA) 1 or NEMA 3R IP44 standards for electrical enclosures. All electrical equipment (including inverters) not located within a larger enclosure will be designed specifically for outdoor installation. Outdoor electrical equipment would be contained within individual NEMA 3R metal clad enclosures. Additionally, the electrical equipment (whether contained within an enclosure or outdoor-rated) are subject to the product safety standard requirements of the UL and Conformance European (CE) certifications, which include assurance that the equipment would be safe to touch by humans and wildlife, and would not pose electrical shock or fire hazards.

Cadmium Telluride

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Cadmium telluride is a stable compound of cadmium (Cd) and tellurium (Te). Although Cd as an independent

element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. In addition, CdTe's physical properties, including its extremely low vapor pressure and high boiling and melting points, along with its insolubility in water, limit its mobility. Furthermore, 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 considered minimal.

A 2005 peer review of three major published studies on the environmental profile of CdTe PV organized by the European Commission, Joint Research Center and sponsored by the German Environment Ministry concluded "…CdTe used in PV is 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.

For these reasons, use of CdTe at the solar energy facility will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment and thus would not have a significant effect on the hazardous materials issue under CEQA.

For all of the reasons discussed in Section A, the Proposed Action's hazardous materials impacts are less than significant under CEQA.

B. Airport Compatibility

Indicator 5: Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.

No portion of the Proposed Action is located within the vicinity of a private airstrip and no significant impact under CEQA is identified associated with this issue.

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 south of the nearest airport, Naval Air Facility, El Centro. According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located outside any military low-level training routes. As such, the Proposed Action would not expose people residing or working in the project area to hazards associated with the Naval Air Facility, El Centro. Also, on June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action, which includes the proposed transmission towers up to 140-feet in height, is consistent with the Airport Land Use Compatibility Plan (ALUCP). Therefore, the Proposed Action would not expose people residing or working in the project area to excessive noise levels from a public airport of private airstrip and a less than significant impact under CEQA has been identified.

C. Emergency Plans

Indicator 7: Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Implementation of the Proposed Action will not result in a substantial impact associated with the emergency preparedness as the Proposed Action site is not currently designated as an emergency shelter area, and the Proposed Action will not impede movement along any established or planned evacuation plan. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan, the "Imperial County Emergency Plan" addresses Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, the Proposed Action is the development of a solar energy facility and does not contain a residential component. Therefore, the Proposed Action will not result in an impact to the existing emergency plan for the County of Imperial and will not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. A less than significant impact under CEQA is identified for this issue area.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Overall maintenance of the facility would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar energy facility is within the jurisdiction of the Imperial County Fire Department (ICFD). The facility will maintain the required volume of water required for fire fighting, based on the number and sizes of structures on the site. Water will be provided in a fire storage tank. The fire storage tank will be located within 150 feet of the O&M building.

Fire protection measures will include sprinkler systems in the O&M building, a FM200 fire suppression system, or equivalent in the plant control room and electrical/control rooms, and portable carbon dioxide (CO_2) fire extinguishers mounted outside inverter/electrical distribution containers on pads throughout the solar array. Fire protection for the solar array, off-site transmission line, and proposed access road will be provided by vegetation management programs. During facility operations, vegetation within the solar energy facility would be controlled by trimming to minimize the risk of wildfire. The electric equipment (whether contained within an enclosure or outdoor-rated) are subject to the product safety standard requirements of the UL and Conformance European (CE) certifications, which include assurance that the equipment would be safe to touch by humans and wildlife, and would not pose electrical shock or fire hazards.

During construction and operation of the Proposed Action, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils.

However, the Proposed Action will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Prevention Plan. The Plan will address construction and operation activities for the project, and establish standards and practices that will minimize the risk of fire danger, and in the case of fire, provide for immediate suppression and notification. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are “No Smoking” areas. With the fire protection measures discussed above, the Proposed Action will not expose people or structures to increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of the Proposed Action.

Furthermore, the project site is not characterized as an area of urban/wildland interfaces. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (2000), the project site does not fall into an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) very high fire hazard severity zone. Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and a less than significant impact under CEQA is identified for this 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 substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor 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 a desert and rural agricultural setting. The likelihood of humans to be exposed to hazards and safety issues such as exposure to electromagnetic fields and electric shock is considered low. Therefore, a less than significant impact under CEQA is identified for this issue area.

F. Intentionally Destructive Acts

The proposed facility presents an unlikely target for an intentionally destructive act and has an extremely low probability of attack. The safety, security, and monitoring measures discussed in Sections 2.1.3.7 and 2.1.3.8, provide preventative measures (fences, gates, lighting) and safeguards (cameras and gatehouse) for the facility that would restrict vehicle access and deter intentionally destructive acts.

Theft or opportunistic vandalism would be more likely than sabotage or terrorist acts. The results of any such acts could be expensive to repair, but no substantial impacts to continued electrical service would be anticipated. No significant environmental impacts under CEQA would be expected from physical damage to the Proposed Action or from loss of power delivery.

4.10.1.2 Alternative 1-Alternative Transmission Line Corridor

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

The potential hazardous materials on or near the solar energy facility portion of the project site include pesticides and herbicides, and scattered trash and debris. 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 in an amount or at a level that would create a hazard to the public or the environment.

Similar to the Proposed Action, the impact to the public or the environment as a result of any potential presence of agricultural chemicals on the solar energy facility portion of the Alternative 1-Alternative Transmission Line Corridor is considered minimal. Therefore, a less than significant impact under CEQA is identified for this issue and no further action is required.

The impact associated with the presence of an abundant amount of trash and debris scattered throughout the proposed solar energy facility site, particularly along the access roads, would be the same as the Proposed Action, and implementation of Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce this impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash is discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Similar to the Proposed Action, no sites were found in the EDR. The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. Thirty-eight orphan sites were identified in the EDR. However, all 38 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 Alternative 1-Alternative Transmission Line Corridor through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Alternative 1-Alternative Transmission Line Corridor

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

As with the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would not emit hazardous emissions. Also, no component of this alternative is located within one-quarter mile of an existing or proposed school. Therefore, no significant impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The use of hazardous materials during construction and operation of Alternative 1-Alternative Transmission Line Corridor would be the same as the Proposed Action, as the same project features are proposed under this alternative (the distinguishing feature is an alternative transmission line corridor). Use of hazardous materials during the construction of the solar energy facility under Alternative 1-Alternative Transmission Line Corridor will include gasoline, diesel fuels, degreasers, and paints. All hazardous materials would be stored on-site in containers that are specifically designed for the characteristics of the materials to be stored. In addition, all hazardous materials are required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control, and Certified United Program Agencies. Furthermore, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor and access road) in accordance with Federal and State requirements. Due to these provisions, a less than significant impact under CEQA is identified related to the transport and use of hazardous materials during the construction phase of the project under Alternative 1-Alternative Transmission Line Corridor.

As with the Proposed Action, limited quantities of hazardous materials will also be used and stored on-site for the operation and maintenance of the solar energy facility under Alternative 1-Alternative Transmission

Line Corridor. All hazardous materials will be properly stored in containers. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. 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 energy facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. However, with the implementation of Mitigation Measure HM2, this impact will be reduced to a level less than significant under CEQA. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and after construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP). The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site. This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system. With obtainment of this permit, no significant impact under CEQA would occur under Alternative 1-Alternative Transmission Line Corridor.

Cadmium Telluride

As discussed above in Section A, similar to the Proposed Action, use of CdTe at the solar energy facility will not release hazardous materials into the environment in an amount or at a level that would create a

significant hazard to the public or the environment. Therefore, the Alternative 1-Alternative Transmission Line Corridor's hazardous materials impacts are less than significant under CEQA.

B. Airport Compatibility

Indicator 5: Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.

No portion Alternative 1-Alternative Transmission Line Corridor is located within the vicinity of a private airstrip and no impact is identified associated with this issue.

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 south of the nearest airport, Naval Air Facility, El Centro. According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located outside any military low-level training routes. Also, on June 16,2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action which includes the proposed transmission towers up to 140-feet in height, is consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers. Under Alternative 1-Alternative Transmission Line Corridor, a modified transmission line corridor is proposed; however, the transmission towers would still reach a maximum height of 140 feet. Under Alternative 1-Alternative Transmission Line Corridor, the transmission towers would extend further south within BLM lands before extending east to connect into the solar energy facility site. This alternative transmission corridor would not place the transmission lines and towers any closer to existing airports, and the alternative alignment would not be located in any training routes for military aircraft. Therefore, 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 of private airstrip and a less than significant impact under CEQA has been identified.

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 impact associated with the emergency preparedness as no portion of Alternative 1-Alternative Transmission Line Corridor is currently designated as an emergency shelter area, and Alternative 1-Alternative Transmission Line Corridor will not impede movement along any established or planned evacuation plan. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, as with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor does not contain a residential component. Therefore, Alternative 1-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. Therefore, a less than significant impact under CEQA would occur.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Under Alternative 1-Alternative Transmission Line Corridor, the solar energy facility 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 energy facility is within the jurisdiction of the 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. Fire protection for the solar array, off-site transmission line, and proposed access road will be provided by vegetation management programs.

During construction and operation of the Alternative 1-Alternative Transmission Line Corridor, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils. However, the Alternative 1-Alternative Transmission Line Corridor will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are “No Smoking” areas. With the fire protection measures discussed above, the Alternative 1-Alternative Transmission Line Corridor will not expose people or structures to an increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of Alternative 1-Alternative Transmission Line Corridor.

Furthermore, no portion of the Alternative 1-Alternative Transmission Line Corridor is characterized as an area of urban/wildland interfaces in the Imperial County Natural Hazard Disclosure (Fire) Map by the California Department of Forestry and Fire Protection (2000). Thus, the project site would not expose people or structures to significant risk of loss, injury, or death involving wildland fire, and a less than significant impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the

surrounding area. The proposed transmission line corridor 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

Similar to the Proposed Action, 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 1-Alternative Transmission Line Corridor or from loss of power delivery.

4.10.1.3 Alternative 2-Reduced Solar energy facility Site

A. Hazardous Materials

Indicator 1: Be included on a list of hazardous materials sites.

Existing Hazardous Materials On-site

The potential hazardous materials on or near the solar energy facility portion of the project site include pesticides and herbicides, and scattered trash and debris. 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 in an amount or at a level that would create a hazard to the public or the environment.

Similar to the Proposed Action, the impact to the public or the environment as a result of any potential presence of agricultural chemicals on the solar energy facility portion of the Alternative 2-Reduced Solar Energy Facility Site is considered minimal. Therefore, a less than significant impact under CEQA is identified for this issue and no further action is required.

The impact associated with the presence of an abundant amount of trash and debris scattered throughout the proposed solar energy facility site, particularly along the access roads on the project site, would be the same as the Proposed Action, and implementation of Mitigation Measure HM1, which would

require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce this impact to a level less than significant under CEQA.

The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, if trash is discovered during project construction, Mitigation Measure HM1 would be implemented to reduce any potential impact to a level less than significant under CEQA.

Potential Impacts from Existing Hazardous Materials on Adjacent Properties

Similar to the Proposed Action, no sites were found in the EDR. The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. Thirty-eight orphan sites were identified in the EDR. However, all 38 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 Alternative 2-Reduced Solar Energy Facility Site through the release of hazardous materials, substances, or waste is considered less than significant under CEQA.

Potential Impacts from Implementation of Construction and Operation Phases of the Alternative 2-Reduced Solar Energy Facility Site

Indicator 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

As with the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site would not emit hazardous emissions. Also, no component of this alternative is located within one-quarter mile of an existing or proposed school. Therefore, no significant impact under CEQA is identified for this issue area.

Indicator 4: Routinely transport, use or dispose of hazardous materials in a manner that creates a hazard to the public or the environment.

The use of hazardous materials during construction and operation of Alternative 2-Reduced Solar Energy Facility Site would be the same as the Proposed Action. Although the size of the solar energy facility site would be reduced, the same project features are proposed under this alternative (the distinguishing feature is that this alternative would provide a reduced size solar energy facility). Use of hazardous materials during the construction of the solar energy facility under Alternative 2-Reduced Solar Energy Facility Site will include gasoline, diesel fuels, degreasers, and paints. All hazardous materials would be stored on-site in containers that are specifically designed for the characteristics of the materials to be stored. In addition, all hazardous materials are required to be stored and managed per requirements of the Imperial County Fire Department, Imperial County Office of Emergency Services, Department of Toxic Substances Control, and Certified United Program Agencies. Furthermore, a Hazardous Material Management Program (HMMP) will be developed and implemented for the entire project site (solar energy facility site, transmission line corridor and access road) in accordance with Federal and State requirements. Due to these provisions, a less than significant impact under CEQA is identified related to the

transport and use of hazardous materials during the construction phase of the project under Alternative 2-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 energy facility under Alternative 2-Reduced Solar Energy Facility Site. All hazardous materials will be properly stored in containers. Due to the quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without environmental consequences. The procedures set forth in the HMMP will be implemented for spills that occur outside of the O&M building. 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-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 would occur associated with the disposal of hazardous materials.

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The use of herbicides may create a hazard to the public or the environment if used improperly. However, with the implementation of Mitigation Measure HM2, this impact will be reduced to a level less than significant under CEQA. Additionally, the project applicant would comply with FIFRA-labeled legal use limits.

During project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands, as identified in Mitigation Measure B2. To minimize the introduction and spread of weed species and use of herbicides, a weed management plan will be developed and implemented on the project components (transmission line corridor and access road) located on BLM lands. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Only herbicides approved by BLM in California will be used on BLM lands (USDI, 2007). Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP). The implementation of the weed management plan, detailed in Mitigation Measure B2, will reduce any impacts resulting from the release of herbicides into the environment in an amount or at a level that would create a significant hazard to the public or the environment to less than significant under CEQA.

A minimal volume of domestic wastewater is expected from the O&M building due to the few staff members on site. This wastewater will be treated via a septic system. The project will require a septic system permit from the Imperial County Department of Environmental Health Services prior to the installation of the septic system. With obtainment of this permit, no significant impact under CEQA would occur under Alternative 1-Alternative Transmission Line Corridor.

Cadmium Telluride

As discussed above in Section A, similar to the Proposed Action, use of CdTe at the solar energy facility will not release hazardous materials into the environment in an amount or at a level that would create a significant hazard to the public or the environment. The Alternative 2-Reduced Solar Energy Facility Site's hazardous materials impacts are less than significant under CEQA.

B. Airport Compatibility

Indicator 5: Be located within a vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area.

No portion Alternative 2-Reduced Solar Energy Facility Site is located within the vicinity of a private airstrip and no significant impact under CEQA is identified associated with this issue.

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 south of the nearest airport, Naval Air Facility, El Centro. According to the NOP response letter from United States Marine Corps dated June 23, 2010, the project site is located outside any military low-level training routes. Also, on June 16, 2010, the Airport Land Use Commission (ALUC) determined that the Proposed Action which includes the proposed transmission towers up to 140-feet in height, is consistent with the Airport Land Use Compatibility Plan (ALUCP) and no height restrictions are required for the proposed transmission line towers. Under Alternative 2-Reduced Solar Energy Facility Site, the size of the project site would be reduced; however, the transmission towers would still reach a maximum height of 140 feet. This alternative would not place the transmission lines and towers any closer to existing airports, and would not be located in any training routes for military aircraft. Therefore, Alternative 2-Reduced Solar Energy Facility Site would not expose people residing or working in the project area to excessive noise level from a public airport of private airstrip and a less than significant impact under CEQA has been identified.

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-Reduced Solar Energy Facility Site will not result in a substantial impact associated with the emergency preparedness as no portion of Alternative 2-Reduced Solar Energy Facility Site is currently designated as an emergency shelter area, and Alternative 2-Reduced Solar Energy Facility Site will not impede movement along any established or planned evacuation plan. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Furthermore, as with the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site does not contain a residential component. Therefore, Alternative 2-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 is identified for this issue area.

D. Fire Hazard

Indicator 8: Expose people or structures to an increased risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Under Alternative 2-Reduced Solar Energy Facility Site, the solar energy site components are the same as the Proposed Action. The distinguishing feature is the solar energy site size would be reduced as compared to the Proposed Action. Under Alternative 2-Reduced Solar Energy Facility Site, overall maintenance of the facility would include proper storage of flammable materials, upkeep of operating equipment, and management of vegetative growth. The solar energy facility is within the jurisdiction of the 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. Fire protection for the solar array, off-site transmission line, and proposed access road will be provided by vegetation management programs.

During construction and operation of the Alternative 2-Reduced Solar Energy Facility Site, there is the potential for desert ignitions to occur as a result of increased road travel on roads and trails on BLM lands. An increase in road travel has the potential to expose BLM lands to combustible substances such as gasoline and oils. However, the Alternative 2-Reduced Solar Energy Facility Site will comply with additional requirements of the ICFD through the development and submission of a Fire Protection Plan. The Fire Protection and Prevention Plan will address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. All areas used for dispensing or storage of gasoline, diesel fuel or other oil products will be cleared of vegetation and other flammable materials. These areas would be posted with signs identifying they are “No Smoking” areas. With the fire protection measures discussed above, the Alternative 2-Reduced Solar Energy Facility Site will not expose people or structures to an increased risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. For this reason, a less than significant fire hazard impact under CEQA would occur with implementation of the Alternative 2-Reduced Solar Energy Facility Site.

Furthermore, no portion of the Alternative 2-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 a less than significant impact under CEQA is identified for this issue area.

E. Hazards and Safety Issues Associated with the Transmission Line

The potential impact of the proposed transmission line on human health is not considered substantial due to its proposed location within a designated utility corridor and the rural agricultural setting of the surrounding area. The proposed transmission line corridor 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

Similar to the Proposed Action, 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 1-Alternative Transmission Line Corridor or from loss of power delivery.

4.10.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on human health and safety from the Alternative 3-No Action/No Project Alternative.

4.10.1.5 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site will result in impacts on human health and safety. Implementation of Mitigation Measures HM1 and HM2 will reduce these impacts to a level of less than significant under CEQA.

The Alternative 3-No Action/No Project Alternative will not result in impacts on human health and safety. Therefore, no mitigation is required.

4.10.2 NEPA Environmental Assessment Summary

4.10.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above under Section 4.10.1.1, the Proposed Action site is not located on a list of hazardous materials sites (NEPA Indicator #1).

Potential hazardous materials currently on or near the solar energy facility portion of the project site include pesticides and herbicides. There is a potential for residual low-level concentrations of pesticides and herbicides to be present in soil and/or groundwater (NEPA Indicator #2).

An abundant amount of trash and debris has been scattered throughout the solar energy facility site. Improper cleanup and disposal of this debris may directly harm the public and the environment. The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, trash discovered during project construction may directly release hazardous materials into the environment (NEPA Indicator #2). Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce the effects on the release of hazardous materials into the environment and reduce any potential impact.

No component of the Proposed Action would emit hazardous emissions. Implementation of the Proposed Action would not directly or indirectly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (NEPA Indicator #3).

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The improper use of herbicides would directly result in the routine transport, use or disposal of hazardous materials (NEPA Indicator #4). Implementation of Mitigation Measure HM2 would reduce the effects of the routine transport, use, or disposal of hazardous materials on the solar energy facility site. In addition, during project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands. Implementation of Mitigation Measure B2 will reduce the effects of the routine transport, use, or disposal of hazardous materials on the transmission line corridor component of the Proposed Action located within BLM lands.

Some of the hazardous materials used during the construction phase will include gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. In addition, limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. The hazardous materials that will be used during construction and operation of the Proposed Action may directly result in the routine transport, use or disposal of hazardous materials. Implementation of the Hazardous Material

Management Program (HMMP) will reduce the effect related to the transport and use of hazardous materials during construction and operation of the Proposed Action.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. Furthermore, the very thin layer of CdTe 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 considered minimal.

The project site is located approximately six miles south of the nearest airport, Naval Air Facility, El Centro. In addition, the project site is located outside any military low-level training routes. As such, the Proposed Action would not directly expose people residing or working in the project area to hazards associated with the Naval Air Facility, El Centro (NEPA Indicators #5 and #6).

Implementation of the Proposed Action would not directly or indirectly impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan (NEPA Indicator #7). Furthermore, the proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel.

Based on the analysis provided above under Section4.10.1.1, during construction and operation of the Proposed Action, there is the potential for desert ignitions to occur as a result of increase road travel on roads and trails on BLM lands. The Proposed Action will comply with requirements of the ICFD through the development and implementation of a Fire Protection Prevention Plan. With the fire protection measures discussed above, the Proposed Action will reduce the effect of exposure of people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (NEPA Indicator #8).

B. Alternative 1-Alternative Transmission Line Corridor

The impacts associated with Alternative 1-Alternative Transmission Line Corridor are the same as the Proposed Action except for the location of the Transmission Line. The impacts to health and safety will be comparative to those of the Proposed Action.

Based on the analysis provided above under Section 4.10.1.2, the Alternative 1-Alternative Transmission Line Corridor site is not located on a list of hazardous materials sites (NEPA Indicator #1).

Potential hazardous materials currently on or near the solar energy facility portion of the project site include pesticides and herbicides. There is a potential for residual low-level concentrations of pesticides and herbicides to be present in soil and/or groundwater. Therefore, the potential presence of low

concentrations of agricultural chemicals on the solar energy facility site may directly impact the public and the environment (NEPA Indicator #2).

An abundant amount of trash and debris has been scattered throughout the solar energy facility site. Improper cleanup and disposal of this debris may directly harm the public and the environment. The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, trash discovered during project construction may directly release hazardous materials into the environment (NEPA Indicator #2). Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce the effects on the release of hazardous materials into the environment.

No component of the Alternative 1-Alternative Transmission Line Corridor would 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, implementation of the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (NEPA Indicator #3).

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The improper use of herbicides would directly result in the routine transport, use or disposal of hazardous materials (NEPA Indicator #4). Implementation of Mitigation Measure HM2 would reduce the effects of the routine transport, use, or disposal of hazardous materials on the solar energy facility site. In addition, during project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands. Implementation of Mitigation Measure B2 will reduce the effects of the routine transport, use, or disposal of hazardous materials on the transmission line corridor component of the Alternative 1-Alternative Transmission Line Corridor located within BLM lands.

The hazardous materials used during the construction phase will include gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. In addition, limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. The hazardous materials that will be used during construction and operation of the Alternative 1-Alternative Transmission Line Corridor may directly result in the routine transport, use or disposal of hazardous materials. Implementation of the Hazardous Material Management Program (HMMP) will reduce the effect related to the transport and use of hazardous materials during construction and operation of the Alternative 1-Alternative Transmission Line Corridor.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of

CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. Furthermore, the very thin layer of CdTe 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 considered minimal.

The project site is located approximately six miles south of the nearest airport, Naval Air Facility, El Centro. In addition, the project site is located outside any military low-level training routes. As such, the Alternative 1-Alternative Transmission Line Corridor would not directly expose people residing or working in the project area to hazards associated with the Naval Air Facility, El Centro (NEPA Indicators #5 and #6).

Implementation of the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan (NEPA Indicator #7) because the site is not currently designated as an emergency shelter area. Furthermore, the proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel.

Based on the analysis provided above under Section 4.10.1.2, during construction and operation of the Alternative 1-Alternative Transmission Line Corridor, there is the potential for desert ignitions to occur as a result of increase road travel on roads and trails on BLM lands. The Alternative 1-Alternative Transmission Line Corridor will comply with requirements of the ICFD through the development and implementation of a Fire Protection Prevention Plan. With the fire protection measures discussed above, the Alternative 1-Alternative Transmission Line Corridor will reduce the effect of exposure of people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (NEPA Indicator #8).

C. Alternative 2-Reduced Solar Energy Facility Site

The impacts associated with Alternative 2-Reduced Solar Energy Facility Site are the same as the proposed action except for the reduced size of the solar energy facility site. The impacts to health and safety will be comparative to those of the Proposed Action with the exception that the footprint of the project will be reduced and the potential for impacts resulting from the construction of the additional acreage would less than the Proposed Action.

Based on the analysis provided above under Section 4.10.1.3, the Alternative 2-Alternative Reduced Solar Energy Facility Site is not located on a list of hazardous materials sites (NEPA Indicator #1).

Potential hazardous materials currently on or near the solar energy facility portion of the project site include pesticides and herbicides. There is a potential for residual low-level concentrations of pesticides and herbicides to be present in soil and/or groundwater. Therefore, the potential presence of low concentrations of agricultural chemicals on the solar energy facility site may directly impact the public and the environment (NEPA Indicator #2).

An abundant amount of trash and debris has been scattered throughout the solar energy facility site. Improper cleanup and disposal of this debris may directly harm the public and the environment. The existing solar field and the BLM transmission corridor on which the project transmission line facilities will be located contain minimal, if any, trash. However, trash discovered during project construction may directly release hazardous materials into the environment (NEPA Indicator #2). Mitigation Measure HM1, which would require the disposal of trash and debris in accordance with current, local, state, and federal disposal regulations, would reduce the effects on the release of hazardous materials into the environment.

No component of the Alternative 2-Reduced Solar Energy Facility Site would emit hazardous emissions. Also, no component of the Alternative 2-Reduced Solar Energy Facility Site is located within one-quarter mile of an existing or proposed school. Therefore, implementation of the Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (NEPA Indicator #3).

During project construction and operation of the solar energy facility, herbicides will be used for weed management. The improper use of herbicides would directly result in the routine transport, use or disposal of hazardous materials (NEPA Indicator #4). Implementation of Mitigation Measure HM2 would reduce the effects of the routine transport, use, or disposal of hazardous materials on the solar energy facility site. In addition, during project construction and subsequent to the construction of the transmission line corridor, maintenance is required regarding weed control on BLM lands. Implementation of Mitigation Measure B2 will reduce the effects of the routine transport, use, or disposal of hazardous materials on the transmission line corridor component of the Alternative 2-Reduced Solar Energy Facility Site located within BLM lands.

The hazardous materials used during the construction phase will include gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, and welding materials/supplies. In addition, limited quantities of hazardous materials will be used and stored on-site for the operation and maintenance of the solar energy facility. These materials will include oils, lubricants, paints, solvents, degreasers and other cleaners, FM200 fire suppressant, and transformer mineral oil. The hazardous materials that will be used during construction and operation of the Alternative 2-Reduced Solar Energy Facility Site may directly result in the routine transport, use or disposal of hazardous materials. Implementation of the Hazardous Material Management Program (HMMP) will reduce the effect related to the transport and use of hazardous materials during construction and operation of the Alternative 2-Reduced Solar Energy Facility Site.

Certain compounds such as Cadmium telluride are used on the construction of solar panels. Although Cd as an independent element is a human carcinogen, it is produced primarily as a byproduct of zinc refining, and is compounded with Te, a byproduct of copper refining, to form the stable compound CdTe. In PV and CPV module manufacturing, this hazardous material, Cd, can be safely sequestered into the form of CdTe in a module for the over 25-year lifetime of the module, after which it is recycled for use in new solar modules. Furthermore, the very thin layer of CdTe 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 considered minimal.

The project site is located approximately six miles south of the nearest airport, Naval Air Facility, El Centro. In addition, the project site is located outside any military low-level training routes. As such, the Alternative 2-Reduced Solar Energy Facility Site would not directly expose people residing or working in the project area to hazards associated with the Naval Air Facility, El Centro (NEPA Indicators #5 and #6).

Implementation of the Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan (NEPA Indicator #7) because the site is not currently designated as an emergency shelter area. Furthermore, the proposed circulation plan for the project site provides multiple emergency access points and safe vehicular travel.

Based on the analysis provided above under Section 4.10.1.3, during construction and operation of the Alternative 2-Reduced Solar Energy Facility Site, there is the potential for desert ignitions to occur as a result of increase road travel on roads and trails on BLM lands. The Alternative 2-Reduced Solar Energy Facility Site will comply with requirements of the ICFD through the development and implementation of a Fire Protection Prevention Plan. With the fire protection measures discussed above, the Alternative 2-Reduced Solar Energy Facility Site will reduce the effect of exposure of people or structures to a risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (NEPA Indicator #8).

The proposed transmission line is located within a designated utility corridor and would have preventative measures (fences, gates, lighting) and safeguards for the facility to restrict vehicle access and deter intentionally destructive acts.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.10.1.4, the project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on human, health and safety from the Alternative 3-No Action/No Project Alternative.

4.10.3 Mitigation Measures and Residual Impacts

4.10.3.1 Proposed Action

HM1 Prior to the issuance of a grading permit or Notice to Proceed (NTP), all trash and debris within the project site (solar energy facility site, transmission line corridor and access road) shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the BLM and the Planning and Development Services Department before issuance of a NTP or grading permit.

HM2 Prior to the application of herbicides on the solar energy facility for weed management, a weed control plan shall be developed and approved by the BLM and reviewed and commented on by the County of Imperial Agricultural Commissioner. The weed control plan shall provide:

1) monitoring, preventative and management strategies for weed control during construction activities at the project;

2) control and management of weeds in areas temporarily disturbed during construction where native seed will aid in site revegetation; and,

3) a long-term strategy for weed control and management during the operation of the project.

4.10.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measures HM1 and HM2 identified above for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.10.3.3 Alternative 2-Reduced Solar energy facility Site

Mitigation Measures HM1 and HM2 identified above for the Proposed Action will also be implemented for Alternative 2-Reduced Solar energy facility Site, if this alternative were to be selected.

4.10.3.4 Alternative 3-No Action/No Project Alternative

No mitigation is proposed under the Alternative 3-No Action/No Project Alternative, as no direct or indirect impacts on human health and safety would occur.

4.10.3.5 Impact Analysis of Mitigation Measures

<u>Impact Analysis of Mitigation Measure HM1:</u>

Implementation of Mitigation Measure HM1 would not result in a direct or indirect impact because prior to the issuance of a permit/NTP, all trash and debris within the project site will be disposed off-site, in accordance with current, local, state, and federal disposal regulations.

<u>Impact Analysis of Mitigation Measure HM2:</u>

Implementation of Mitigation Measure HM2 would not result in a direct or indirect impact because prior to the application of herbicides on the solar energy facility and transmission line for weed management, a weed control plan shall be approved by the BLM will address any potential impacts and provide for subsequent mitigation and BMP's for the application of herbicides.

4.10.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

4.11 Hydrology and Water Quality

Information contained in this section is summarized from: 1) *Preliminary CEQA Level Drainage Study for Imperial Valley South 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 South 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

With regard to Hydrology and Water Quality, this EIR/EA analyzes whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-No Action/No Project Alternative would:

Indicator 1: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on- or off-site;*

Indicator 2: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or off-site;*

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

Indicator 4: *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*

Indicator 5: *Place within a 100-year flood hazard area structures that will impede or redirect flood flows;*

Indicator 6: *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;*

Indicator 7: *Inundate by seiche, tsunami, or mudflow;*

Indicator 8: *Violate any water quality standards or waste discharge requirements;*

Indicator 9: *Otherwise substantially degrade water quality; and/or,*

Indicator 10: *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).*

NEPA Methodology

Evaluation of impacts of the Proposed Action on Hydrology and Water Quality was based on review of technical studies mentioned above. The indicators listed provide a contextual relationship with which to analyze the impacts of the Proposed Action to the Existing Setting. The Indicators provide the reader with a comparison of all the alternatives within a single context. The level of impact listed in the Indicator also helps establish the intensity of the impact with regard to the baseline information provided in Chapter 3 – Affect Environment of this EIR/EA.

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, 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.

In addition, a detailed analysis is not provided for the access road portion of the Proposed Action, as this portion of the project site is flat. The road will either be maintained in its current condition or will be surfaced with Class II base material. As such, the road will remain pervious. Prior to any construction, a Storm Water Pollution and Prevention plan will be submitted to Imperial County, the Regional Water Quality Control Board, and the BLM to ensure that on- and off-site erosion impacts do not rise to a level of significance under CEQA.

Due to the abovementioned reasons, these portions of the project site will remain for the most part, in their existing condition. Therefore, no significant hydrology and water quality impact under CEQA has been identified for the transmission line corridor and access road project components of the Proposed Action.

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.*

West of Westside Main Canal

The runoff tributary to the westerly portion of the site is proposed to be intercepted and collected at the boundary. An approximately 23-acre triangular-shaped area of land will be provided for detention. With an average depth of four feet, the detention basin provides approximately 80 acre-feet of storage. In combination with the existing Mt. Signal Drain #3 and the proposed northerly perimeter channel, a total of 86 acre-feet of storage is achieved. All runoff from areas west of the canal ends up at the northeast corner of the west half of the solar energy facility site; at that location, the Mt. Signal Drain #3 (channel) crosses under the existing canal through a 30" storm drain, which controls the outflow for the west half of the site. Figure 4.11-1 depicts the location of the proposed detention areas and channels. Attenuation of peak 100-year combined onsite and offsite flows (west half of the site) will be achieved with the storage volume in the detention basin and in the channel areas.

East of Westside Main Canal

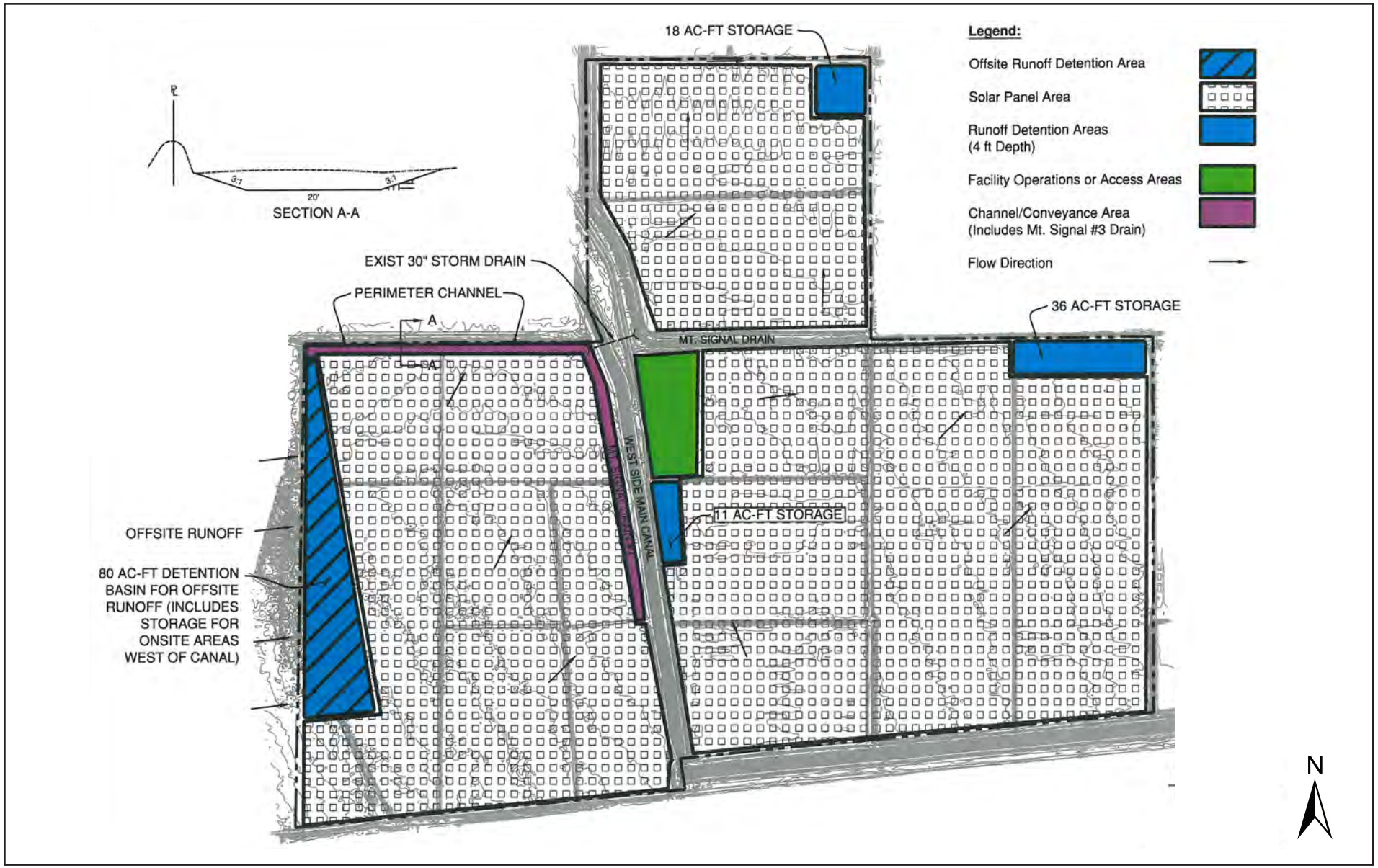
There is no offsite runoff tributary to the site east of the Westside Main Canal. The majority of the field areas drain northeasterly, with the westerly field area containing a portion that drains northwesterly. Onsite runoff will be stored with a combination of onsite minor ponding through curbing, and also some perimeter detention areas. Figure 4.11-1 depicts the location of the proposed drainage infrastructure for the solar energy facility site east of the Westside Main Canal. It should be noted that while runoff generated from the proposed solar energy facility will actually be less than existing runoff volumes, the detention basins on the east side are provided such that the combination of onsite shallow ponding and detention basins could potentially store the entire proposed runoff hydrograph volume.

Drainage Analysis

The solar energy facility was divided into fifteen subareas based on the field breaks at the site, with seven subareas west of the Westside Main Canal and eight subareas to the east. Figure 4.11-2 depicts these subareas. Hydrograph analyses were performed for the areas, divided into areas as follows: S1 through S7, S8 and S9, S10 and S13-15, and S11 and S12. Table 4.11-1 provides the hydrograph results. According to Table 4.11-1, runoff peak flows and volumes generated by each subarea will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility. Year-round irrigated field crops and grasses have a higher antecedent moisture condition than the proposed solar energy facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Water will drain off of the solar panels and will continue to fall onto the pervious ground surface below the panels. Rain falling on the panels will run off at the drip-line at the lower end of the panels. As such, the solar energy facility site 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 through the ground.

In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. In the proposed condition, culvert connections between the site and the IID drains will not be upsized. Therefore, the peak flow rates leaving the site are limited by the capacities of the existing culverts, and the combined attenuating effect with the perimeter detention storage results in no increase in runoff.



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

10/12/10

BRG CONSULTING, INC.

Imperial Solar Energy Center South

Proposed Drainage Infrastructure

FIGURE 4.11-1

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 11\Figure 4.11-1 Proposed Drainage Infrastructure.ai

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

10/12/10

BRG CONSULTING, INC.

Imperial Solar Energy Center South

Hydrograph Analysis Subareas

FIGURE 4.11-2

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 11\Figure 4.11-2 Hydrograph Analysis Subareas.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)
S1-S7	331	238	65	184	52	-54	-13
S11, S12	115	166	23	134	18	-32	-5
S10, S13-S15	300	434	65	368	54	-66	-11
S8, S9	155	267	33	227	28	-40	-5

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

Additionally, a conceptual storage design was developed to determine the available detention/retention volume under the solar panels with the provision of 6-inch curbs constructed at the lower end of the solar blocks. The ponding area would reach 140 feet, or about 35% of the solar block area (400 ft. by 300 ft.), or about 35% of the block area. It is assumed that up to 5% of that area is not available for shallow ponding. As such, the area has been reduced to 30% of available under-panel storage capacity. For a 100-acre area, 30 acres with an average ponding depth of 0.25 feet would provide up to 7.5 acre-feet of storage volume. This, in combination with the three proposed detention basins on the easterly half of the solar energy facility site is sufficient to contain the total runoff volume for onsite areas. Table 4.11-2 lists the storage capacity volumes provided in both under-panel areas and in the three perimeter detention basins (east half of the solar energy facility site only). As shown in Table 4.11-2, the runoff volumes can be stored with the combined capacity thus, the solar energy facility site would not 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. Therefore, no significant impact under CEQA is identified for this issue area.

TABLE 4.11-2
Runoff Storage Volumes (East of Westside Main Canal)

Area	Approximate Panel Area (ac)	Total Runoff (ac-ft)	Under-Panel Storage (ac-ft)	Detention Basin Area (ac)	Detention Basin Storage (ac-ft)	Excess Runoff (ac-ft)
S8, S9	130	28	10	4.5	18	0
S10, S13-S14	248	55	19	9	36	0
S11, S12	115	18	7	3	11	0

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

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 project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. As such, the potential flood hazard associated with a 100-year floodplain or failure of a dam is considered less than significant under CEQA. The Proposed Action does not propose the placement of housing or structures within a 100-year flood hazard area. Therefore, the Proposed Action would not expose people or structures to a significant risk or loss, injury or death involving flooding. A less than significant impact under CEQA is identified for the flooding issue area.

C. Seiche, Tsunami, or Mudflow

Indicator 7: *Inundate by seiche, tsunami, or mudflow.*

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean. In addition, the project site is relatively flat and level. Therefore, there is no potential for the project site to be inundated by seiches, tsunamis, or mudflows. Thus, no significant impact under CEQA is identified for this issue.

D. Water Quality

Indicator 8: *Violate any water quality standards or waste discharge requirements.*

Indicator 9: *Otherwise substantially degrade water quality.*

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the 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. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

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 Site Layout*- The very nature of the proposed land use optimizes the site layout thus limiting the development envelope. The majority of the existing drainage will be untouched by the construction.
- *Use Pervious Surfaces*- Interval Service Roads will use a pervious surface.
- *Disperse Runoff*- The pervious surfaces will drain to retention 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 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 detention basins. 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 Proposed Action does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The project site is currently used for agricultural production. Averaged over the period from 2000 to 2009, historical water use was approximately 7,612 acres per feet per year. The existing agricultural farm currently uses more water than the proposed solar facility would need during and post construction. Once the plant is operational, approximately 5 acre-feet per year of water will be required primarily for panel washing. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. As such, the solar energy facility portion of the Proposed Action will not have an substantial impact associated with water infiltration and groundwater levels due to a minor increase (O% to 0.6%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to CDFG and RWQCB jurisdictional resources is anticipated from the widening of the access road and transmission line construction. However, with the implementation of Mitigation Measure B9, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B9 would mitigate the jurisdictional resources impact through mitigation ratios. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources of this EIR/EA 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.*

West of Westside Main Canal

Similar to the Proposed Action, the runoff tributary to the westerly portion of the site is proposed to be intercepted and collected at the boundary for the Alternative 1-Alternative Transmission Line Corridor. An approximately 23-acre triangular-shaped area of land will be provided for detention. With an average depth of four feet, the detention basin provides approximately 80 acre-feet of storage. In combination with the existing Mt. Signal Drain #3 and the proposed northerly perimeter channel, a total of 86 acre-feet of storage is achieved. All runoff from areas west of the canal ends up at the northeast corner of the west half of the solar energy facility site; at that location, the Mt. Signal Drain #3 (channel) crosses under the existing canal through a 30" storm drain, which controls the outflow for the west half of the site. Attenuation of peak 100-year combined onsite and offsite flows (west half of the site) will be achieved with the storage volume in the detention basin and in the channel areas.

East of Westside Main Canal

Similar to the Proposed Action, there is no offsite runoff tributary to the site east of the Westside Main Canal for the Alternative 1-Alternative Transmission Line Corridor. The majority of the field areas drain northeasterly, with the westerly field area containing a portion that drains northwesterly. Onsite runoff will be stored with a combination of onsite minor ponding through curbing, and also some perimeter detention areas. It should be noted that while runoff generated from the proposed solar energy facility will actually be less than existing runoff volumes, the detention basins on the east side are provided such that the combination of onsite shallow ponding and detention basins could potentially store the entire proposed runoff hydrograph volume.

Drainage Analysis

The solar energy facility was divided into fifteen subareas based on the field breaks at the site, with seven subareas west of the Westside Main Canal and eight subareas to the east. Figure 4.11-2 depicts these subareas. Hydrograph analyses were performed for the areas, divided into areas as follows: S1 through S7, S8 and S9, S10 and S13-15, and S11 and S12. Table 4.11-1 provides the hydrograph results. According to Table 4.11-1, runoff peak flows and volumes generated by each subarea will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility. Year-round irrigated field crops and grasses have a higher antecedent moisture condition than the proposed solar energy facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Water will drain off of the solar panels and will continue to fall onto the pervious ground surface below the panels. Rain falling on the panels will run off at the drip-line at the lower end of the panels. Implementation of the Alternative 1-Alternative Transmission Line Corridor will not substantially alter the existing drainage pattern of the site in a manner that will result in flooding or substantial erosion. As such, the solar energy facility site portion

of the Alternative 1-Alternative Transmission Line Corridor 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 through the ground.

In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. In the proposed condition, culvert connections between the site and the IID drains will not be upsized. Therefore, the peak flow rates leaving the site are limited by the capacities of the existing culverts, and the combined attenuating effect with the perimeter detention storage results in no increase in runoff.

Additionally, a conceptual storage design was developed to determine the available detention/retention volume under the solar panels with the provision of 6-inch curbs constructed at the lower end of the solar blocks. The ponding area would reach 140 feet, or about 35% of the solar block area (400 ft. by 300 ft.), or about 35% of the block area. It is assumed that up to 5% of that area is not available for shallow ponding. As such, the area has been reduced to 30% of available under-panel storage capacity. For a 100-acre area, 30 acres with an average ponding depth of 0.25 feet would provide up to 7.5 acre-feet of storage volume. This, in combination with the three proposed detention basins on the easterly half of the solar energy facility is sufficient to contain the total runoff volume for onsite areas. As shown in Table 4.11-2, the runoff volumes can be stored with the combined capacity thus, the solar energy facility site would not 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. Therefore, no significant impact under CEQA is identified for the runoff 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 project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. Similar to the Proposed Action, the potential flood hazard associated with a 100-year floodplain or failure of a dam is considered less than significant under CEQA for the Alternative 1-Alternative Transmission Line Corridor. In addition, the Alternative 1-Alternative Transmission Line Corridor does not propose the placement of housing or structures within a 100-year flood hazard area. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not expose people or structures to a significant risk of loss, injury or death involving flooding. A less than significant impact under CEQA is identified for the flooding issue area.

C. Seiche, Tsunami, or 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 area.

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 NPDES general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the 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. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

Similar to the Proposed Action, the 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*- Interval Service Roads will use a pervious surface.
- *Disperse Runoff*- The pervious surfaces will drain to retention 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 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 detention basins. 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 Alternative 1-Alternative Transmission Line Corridor does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the Imperial Irrigation District (IID) Water Department via a system of canals and delivery gates. The project site is currently used for agricultural production. Averaged over the period from 2000 to 2009, historical water use was approximately 7,612 acres per feet per year. The existing agricultural farm currently uses more water than the proposed solar facility would need during and post construction. Once the plant is operational, approximately 5 acre-feet per year of water will be required primarily for panel washing. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks

and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. As such, the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor will not have an substantial impact associated with water infiltration and groundwater levels due to a minor increase (O% to 0.6%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to CDFG and RWQCB jurisdictional resources is anticipated from the widening of the access road and transmission line construction. However, with the implementation of Mitigation Measure B9, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B9 would mitigate the jurisdictional resources impact through mitigation ratios. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources for a full analysis of the Alternative 1-Alternative Transmission Line Corridor's impact to jurisdictional waters.

4.11.1.3 Alternative 2-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.*

West of Westside Main Canal

Similar to the Proposed Action, the runoff tributary to the westerly portion of the site is proposed to be intercepted and collected at the boundary for the Alternative 2-Reduced Solar Energy Facility Site. An approximately 23-acre triangular-shaped area of land will be provided for detention. With an average depth of four feet, the detention basin provides approximately 80 acre-feet of storage. In combination with the existing Mt. Signal Drain #3 and the proposed northerly perimeter channel, a total of 86 acre-feet of storage is achieved. All runoff from areas west of the canal ends up at the northeast corner of the west half of the solar energy facility site; at that location, the Mt. Signal Drain #3 (channel) crosses under the existing canal through a 30" storm drain, which controls the outflow for the west half of the site. Attenuation of peak 100-year combined onsite and offsite flows (west half of the site) will be achieved with the storage volume in the detention basin and in the channel areas.

East of Westside Main Canal

Similar to the Proposed Action, there is no offsite runoff tributary to the site east of the Westside Main Canal for the Alternative 2-Reduced Solar Energy Facility Site. Onsite runoff will be stored with a combination of onsite minor ponding through curbing, and also some perimeter detention areas. The project under Alternative 2-Reduced Solar Energy Facility Site would not include the north portion of the solar facility site. The solar energy facility site would be reduced to approximately 476 acres, and would comprise of land from the Mt. Signal Drain and downward (south). As such, the detention area located in the northeast corner under the Proposed Action would be eliminated for the project under Alternative 2-Reduced Solar Energy Facility Site. However, this proposed detention area would be relocated south of the Mt. Signal Drain on the reduced solar energy facility site. It should be noted that while runoff generated from the proposed solar energy facility will actually be less than existing runoff volumes, the detention basins on the east side are provided such that the combination of onsite shallow ponding and detention basins could potentially store the entire proposed runoff hydrograph volume.

Drainage Analysis

Similar to the Proposed Action, the runoff peak flows and volumes generated by each subarea will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility. Year-round irrigated field crops and grasses have a higher antecedent moisture condition than the proposed solar energy facility.

The proposed solar panels will be constructed on posts and the land beneath the panels will remain pervious. Water will drain off of the solar panels and will continue to fall onto the pervious ground surface below the panels. Rain falling on the panels will run off at the drip-line at the lower end of the panels. The Alternative 2-Reduced Solar Energy Facility Site will not substantially alter the existing drainage pattern of the site in a manner that will result in flooding or substantial erosion. As such, the solar energy facility site portion of the Alternative 2-Reduced Solar Energy Facility Site 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 through the ground.

In the existing condition, runoff ponds throughout the site and then is drained to the IID drains through culverts and tile drains. In the proposed condition, culvert connections between the site and the IID drains will not be upsized. Therefore, the peak flow rates leaving the site are limited by the capacities of the existing culverts, and the combined attenuating effect with the perimeter detention storage results in no increase in runoff.

Additionally, a conceptual storage design was developed to determine the available detention/retention volume under the solar panels with the provision of 6-inch curbs constructed at the lower end of the solar blocks. The ponding area would reach 140 feet, or about 35% of the solar block area (400 ft. by 300 ft.), or about 35% of the block area. It is assumed that up to 5% of that area is not available for shallow ponding. As such, the area has been reduced to 30% of available under-panel storage capacity. For a 100-acre area, 30 acres with an average ponding depth of 0.25 feet would provide up to 7.5 acre-feet of storage volume. This, in combination with the three proposed detention basins on the easterly half of the solar energy facility is sufficient to contain the total runoff volume for onsite areas. The runoff volumes can be stored with the combined capacity thus, the solar energy facility site would not 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. Therefore, no significant impact under CEQA is identified for the runoff 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 project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. Similar to the Proposed Action, the potential flood hazard associated with a 100-year floodplain or failure of a dam is considered less than significant under CEQA. In addition, the Alternative 2-Reduced Solar Energy Facility Site does not propose the placement of housing or structures within a 100-year flood hazard area. Therefore, the Alternative 2-Reduced Solar Energy Facility Site would not expose people or structures to a significant risk of loss, injury or death involving flooding and a less than significant impact under CEQA is identified for the flooding issue.

C. Seiche, Tsunami, or 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 area.

D. Water Quality

Indicator 8: *Violate any water quality standards or waste discharge requirements.*

Indicator 9: *Otherwise substantially degrade water quality.*

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts. However, compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit for Activities Associated with Construction, as well as rules found in the Federal Clean Water Act, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the 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. Mitigation Measure HWQ1 requires the approval and implementation of a SWPPP. The SWPPP will include source control and treatment control BMPs to prevent or minimize stormwater pollution.

Similar to the Proposed Action, the Alternative 2-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*- Interval Service Roads will use a pervious surface.
- *Disperse Runoff*- The pervious surfaces will drain to retention 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 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 will include detention basins. 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 Alternative 2-Reduced Solar Energy Facility Site does not propose to use the groundwater as a water source; therefore groundwater supplies will not be depleted. As discussed in Section 7.2.6 of this EIR/EA, water service to the project site is provided by the IID Water Department via a system of canals and delivery gates. The project site is currently used for agricultural production. Averaged over the period from 2000 to 2009, historical water use was approximately 7,612 acres per feet per year. The existing agricultural farm currently uses more water than the proposed solar facility would need during and post construction. Once the plant is operational, approximately 5 acre-feet per year of water will be required primarily for panel washing. Water will be needed for domestic use, solar panel washing and fire protection once the project facilities are fully operational. An onsite water treatment facility is proposed and would draw water from the Westside Main Canal and treat it to the level required for domestic and solar panel washing use. Alternatively, water may be trucked to the site in tanker trucks and stored on site for domestic use, panel washing and dust suppression. Bottled water will be trucked to the site for drinking water. As such, the solar energy facility site portion of the Alternative 2-Reduced Solar Energy Facility Site will not have an substantial impact associated with water infiltration and groundwater levels due to a minor increase (O% to 0.6%) in imperviousness. Therefore, the groundwater issue is considered less than significant under CEQA.

F. Jurisdictional Waters

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a significant impact to CDFG and RWQCB jurisdictional resources is anticipated from the widening of the access road and transmission line construction. However, with the implementation of Mitigation Measure B9, this impact will be reduced to a level less than significant under CEQA. Mitigation Measure B9 would mitigate the jurisdictional resources impact through mitigation ratios. In addition, a Section 1600 Streambed Alteration Agreement would need to be authorized for the impact to CDFG resources. See Section 4.12 Biological Resources for a full analysis of the Alternative 2-Reduced Solar Energy Facility Site's impact to jurisdictional waters.

4.11.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on hydrology and water quality from the Alternative 3-No Action/No Project Alternative.

4.11.1.5 CEQA Summary

Based on the analysis above, implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site will result in hydrology and water quality impacts under CEQA. Implementation of Mitigation Measure HWQ1 would reduce this impact to a level less than significant under CEQA.

The Alternative 3-No Action/No Project Alternative will not result in hydrology and water quality impacts under CEQA. Therefore, no mitigation is required.

4.11.2 NEPA Environmental Assessment Summary

4.11.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis above under Section 4.11.1.1, the runoff on the solar energy facility site portion of the Proposed Action would be intercepted and collected at various points. Drainage infrastructure would include detention basins, perimeter channels, and existing drains and culverts. According to hydrograph analyses, runoff peak flows and volumes generated by the site will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility and the drainage infrastructure. Implementation of the Proposed Action would not contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems (NEPA Indicators #1, #2, and #3).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. The Proposed Action does not propose the placement of housing or structures within a 100-year flood hazard area and would not expose people or structures to a risk or loss, injury or death involving flooding (NEPA Indicators #4, #5, and #6).

No bays or lakes are located within a two-mile radius of the project site and the project site is located over 100 miles from the Pacific Ocean.

Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction related activities. Compliance with regulations concerning a National Discharge Pollution Discharge Elimination System (NPDES) general permit, 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 effects on water quality (NEPA Indicators #8 and #9). Implementation of Mitigation Measure HWQ1, as identified in Section 4.11 of this EIR/EA, will also reduce impacts on water quality.

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the Proposed Action does not propose to use the groundwater as a water source; therefore groundwater supplies will not be impacted (NEPA Indicator #10).

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a direct impact to jurisdictional resources anticipated from widening of the access road and construction of the transmission line corridor. Implementation of Mitigation Measure B9, as identified in Section 4.12 of this EIR/EA, will reduce the impact on jurisdictional resources.

B. Alternative 1-Alternative Transmission Line Corridor

Based on the analysis above under Section 4.11.1.2, the runoff on the solar energy facility site portion of the Alternative 1-Alternative Transmission Line Corridor site would be intercepted and collected at various points. Drainage infrastructure would include detention basins, perimeter channels, and existing drains and culverts. According to hydrograph analyses, runoff peak flows and volumes generated by the site will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility and the drainage infrastructure. Implementation of the Alternative 1-Alternative Transmission Line Corridor would not contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems (NEPA Indicators #1, #2, and #3).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. The Alternative 1-Alternative Transmission Line Corridor does not propose the placement of housing or structures within a 100-year flood hazard area and would not expose people or structures to a risk or loss, injury or death involving flooding (NEPA Indicators #4, #5, and #6).

Similar to the Proposed Action, 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.

Similar to the Proposed Action, contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction related activities. Compliance with regulations concerning a 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 effects on water quality (NEPA Indicators #8 and #9). Implementation of Mitigation Measure HWQ1, as identified in Section 4.11 of this EIR/EA, will also reduce impacts on water quality.

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the Alternative 1-Alternative Transmission Line Corridor does not propose to use the groundwater as a water source; therefore groundwater supplies will not be impacted (NEPA Indicator #10).

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a direct impact to jurisdictional resources anticipated from widening of the access road and construction of

the transmission line corridor. Implementation of Mitigation Measure B9, as identified in Section 4.12 of this EIR/EA, will reduce the impact on jurisdictional resources.

C. Alternative 2-Reduced Solar Energy Facility Site

Based on the analysis above under Section 4.11.1.3, the runoff on the solar energy facility site portion of the Alternative 2-Reduced Solar Energy Facility Site would be intercepted and collected at various points. Drainage infrastructure would include detention basins, perimeter channels, and existing drains and culverts. According to hydrograph analyses, runoff peak flows and volumes generated by the site will be reduced in the proposed developed condition. This is a result of the change in land use from agriculture to a solar energy facility and the drainage infrastructure. Implementation of the Alternative 2-Reduced Solar Energy Facility Site would not contribute runoff water, which will exceed the capacity of existing or planned stormwater drainage systems (NEPA Indicators #1, #2, and #3).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located in Zone X, which is an area determined to be outside of the 0.2% annual chance floodplain. The Alternative 2-Reduced Solar Energy Facility Site does not propose the placement of housing or structures within a 100-year flood hazard area and would not expose people or structures to a risk or loss, injury or death involving flooding (NEPA Indicators #4, #5, and #6).

Similar to the Proposed Action, 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.

Similar to the Proposed Action, contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site detention basins as a result of construction or post-construction related activities. Compliance with regulations concerning a 8NPDES 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 effects on water quality (NEPA Indicators #8 and #9). Implementation of Mitigation Measure HWQ1, as identified in Section 4.11 of this EIR/EA, will also reduce impacts on water quality.

Groundwater in the area is not used for municipal or domestic supply and there are no nearby wells. In addition, the Alternative 2-Reduced Solar Energy Facility Site does not propose to use the groundwater as a water source; therefore groundwater supplies will not be impacted (NEPA Indicator #10).

According to the biological technical report prepared by RECON Environmental Inc. (Appendix I-1), a direct impact to jurisdictional resources anticipated from widening of the access road and construction of the transmission line corridor. Implementation of Mitigation Measure B9, as identified in Section 4.12 of this EIR/EA, will reduce the impact on jurisdictional resources.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.11.1.4, the project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on hydrology and water quality from the Alternative 3-No Action/No Project Alternative.

4.11.3 Mitigation Measures and Residual Impacts

4.11.3.1 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). If the problem persists, vector control specialists will be consulted regarding removal steps. This consulting is necessary as the threat of rabies in some areas may necessitate the animals being destroyed rather than relocated.
- General Facility Maintenance: In addition to the above elements of corrective maintenance, general corrective maintenance will address the overall facility and its associated components. If corrective maintenance is being done to one component, other components will be inspected to see if maintenance is needed.

Maintenance Frequency

Maintenance indicators, described above, will determine the schedule of maintenance activities to be implemented at the basin. These basins should not require a rigorous maintenance schedule, once the landscaping is established. The inspection frequency and regular preventative maintenance will indicate when corrective maintenance is necessary.

The detention basins must be inspected at least once during the rainy season and at least once between each rainy season. These basins must be maintained so that they continue to function as designed. All inspections and maintenance activities will be documented for submittal to the County of Imperial and the Regional Water Quality Control Board if requested.

4.11.3.2 Alternative 1-Alternative Transmission Line Corridor

Mitigation Measure HWQ1 identified for the Proposed Action will also be implemented for Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected.

4.11.3.3 Alternative 2-Reduced Solar Energy Facility Site

Mitigation Measure HWQ1 identified for the Proposed Action will also be implemented for Alternative 2-Reduced Solar Energy Facility Site, if this alternative were to be selected.

4.11.3.4 Alternative 3-No Action/No Project Alternative

No mitigation is proposed under Alternative3-No Action/No Project Alternative, as no hydrology and water quality impacts under CEQA would occur.

4.11.3.5 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure HWQ1:

Implementation of Mitigation Measure HWQ1 would not result in a direct or indirect impact because prior to 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 and shall be approved by the County of Imperial.

4.11.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

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4.12 Biological Resources

Information contained in this section is summarized from the *Biological Technical Report for the Imperial Solar Energy Center South Project* prepared by RECON Environmental, Inc. (October 15, 2010); *Solar Field Access Road Addendum* prepared by RECON Environmental, Inc. (November 17, 2010); *Mountain Plover Amendment to the Biological Assessment for the Imperial Valley Solar Energy Center South Project* prepared by RECON Environmental, Inc. (February 14, 2011); *Imperial Solar Energy South 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 South Project* prepared by RECON Environmental, Inc. (April 5, 2011); and, *Post Survey Results for the Southwestern Willow Flycatcher on the Imperial Solar Energy Center South 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-1a, Appendix I-1b, 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 under CEQA or a direct or indirect impact under NEPA would occur if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-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-Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative.

4.12.1.1 Proposed Action

The Proposed Action includes the solar energy facility and access road (R-2, IVS-6, and IVS-8) and transmission corridor portions (IVS-1 and IVS-3).

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Proposed Action site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-1 identifies the permanent and temporary impacts to vegetation communities for the Proposed Action.

Solar Energy Facility Site Vegetation Impact

Implementation of the proposed solar energy facility and associated access road would permanently impact 819.2 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land are not considered significant. Agricultural lands impacted with implementation of the Proposed Action are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensity grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds.

Implementation of Mitigation Measure B1 will reduce this impact to a level less than significant under CEQA.

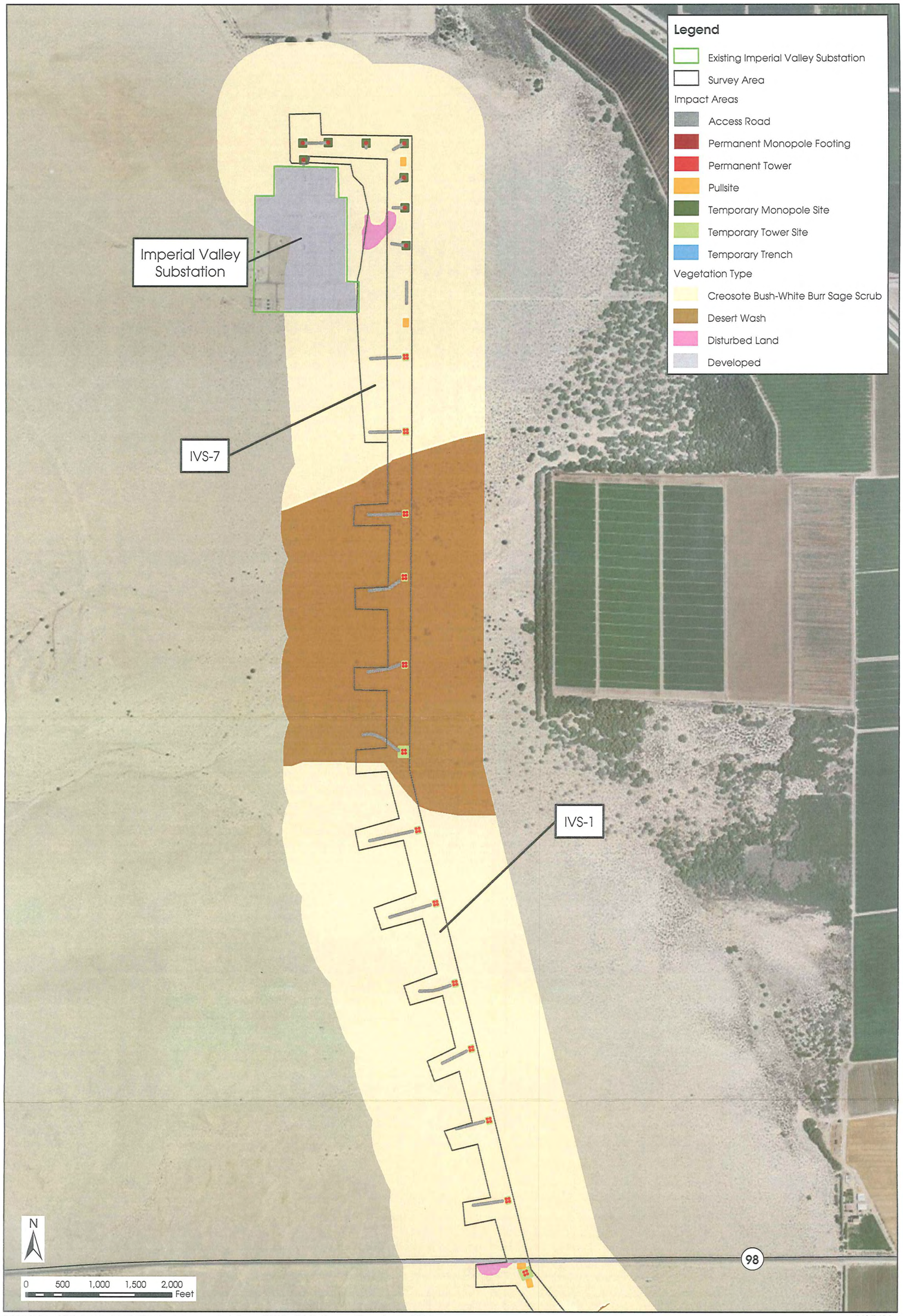
Proposed Action Transmission Line Vegetation Impact

The construction of the Proposed Action's transmission line within larger the BLM Utility Corridor would permanently impact 2.2 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash. Permanent and direct impacts occur where the surface of the ground would be permanently disturbed. Specifically, a permanent and direct impact would occur where new access roads and footings or anchors for tower, monopole, or crossing structures are constructed.

TABLE 4.12-1
Proposed Action Vegetation Community Impacts

Vegetation Community/ Land Cover Types	Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line Impact (acres)	Total Proposed Action Impacts (acres)
Permanent Impact			
Creosote bush-white burr sage scrub (CBS)			
Solar energy facility	16.8	--	16.8
Access Roads	--	2.2	2.2
Monopole footings	--	<0.1	<0.1
Lattice tower sites	--	<0.1	<0.1
CBS Sub-total	--	*2.2*	*19.0*
Desert Saltbush Scrub (DSS) Access Road (R8)	0.1	--	0.1
Desert Wash (DW)			
Access Roads	--	0.6	0.6
Lattice tower sites	--	<0.1	<0.1
DW Sub-total	--	*0.6*	*0.6*
Arrow Weed Thicket Access Road (R8)	0.3	--	0.3
Active Agriculture (AG)	819.2	--	819.2
Disturbed land (DL)	7.9	--	7.9
Permanent Total	844.3	2.8	847.1
Temporary Impact			
Creosote bush-white burr sage scrub (CBS)			
Pullsite	--	0.8	0.8
Monopole work areas	--	1.7	1.7
Lattice tower work areas	--	4.0	4.0
Trench	--	<0.1	<0.1
CBS Sub-total	--	*6.5*	*6.5*
Desert Wash (DW)			
Lattice tower sites	--	0.8	0.8
DW Sub-total	--	*0.8*	*0.8*
Temporary Total	--	7.3	7.3
Total Proposed Action Impacts	844.3	10.1	854.4

Source: RECON Environmental Inc., 2010.



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

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Impacts to Vegetation Communities

FIGURE 4.12-1a

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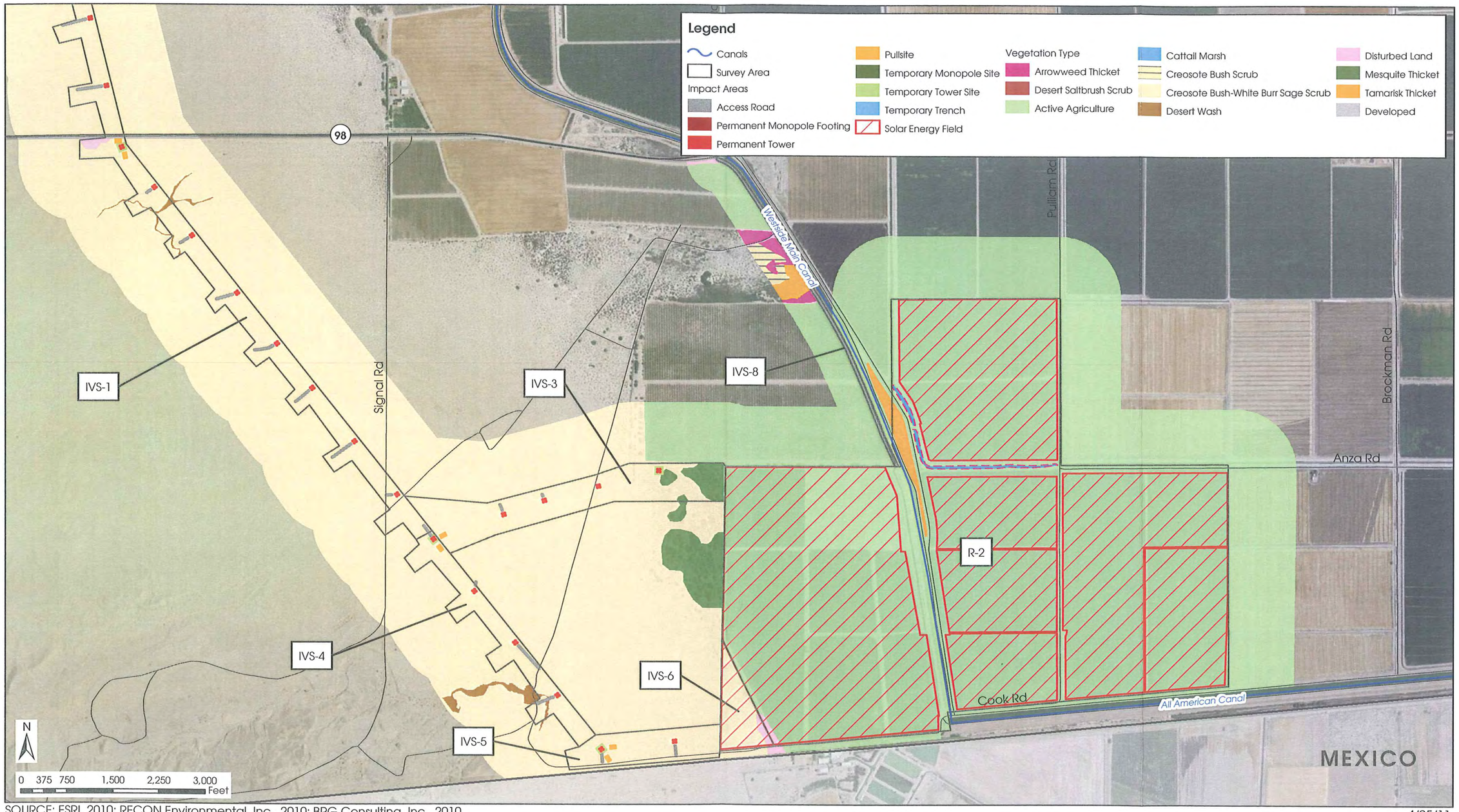

SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Vegetation Communities

FIGURE 4.12-1b

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Temporary and direct impacts to creosote bush-white burr sage scrub would result in 6.5 acres, and 0.8 acres of desert wash. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible including work areas around towers/monopoles and pullsites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Permanent and temporary direct impacts to creosote bush-white burr sage scrub and desert wash are considered significant. Implementation of Mitigation Measure B1, which requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-10 in this EIR/EA.

With implementation of Mitigation Measure B1, the Proposed Action will not have a substantial adverse effect on the vegetation communities identified above. The compensation requirements will offset temporary and permanent impacts to the vegetation communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds Impact

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into an area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

While the majority of the proposed solar energy facility site is situated within active agricultural fields, native desert vegetation is found in the southwest corner of the solar energy facility site. During Operations and Maintenance, the solar panels have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the desert vegetation. Increased shading of the ground results in cooler moister areas that may favor colonization of weed species (Smith 1984, Smith et al. 1987).

To minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Proposed Action's construction or operations phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

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

Special Status and Priority Plants

Three priority plant species were observed within the survey area during spring rage plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Proposed Action transmission line in the BLM Utility Corridor) is located within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted. However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population. This impact is considered less than significant under CEQA.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly impacted by the Proposed Action.

Sensitive Wildlife

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Figure 4.12-2b depicts the location of burrowing owls on the solar energy facility. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during the focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of the Proposed Action would involve grading the solar energy facility site during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl

burrows because it would constitute direct habitat modification with a substantial adverse effect to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines. With development and ongoing implementation of Burrowing Owl Mitigation and Monitoring Plan, construction-related modification of landscape features potentially used as burrows by burrowing owls, this impact would be reduced to a level less than significant under CEQA.

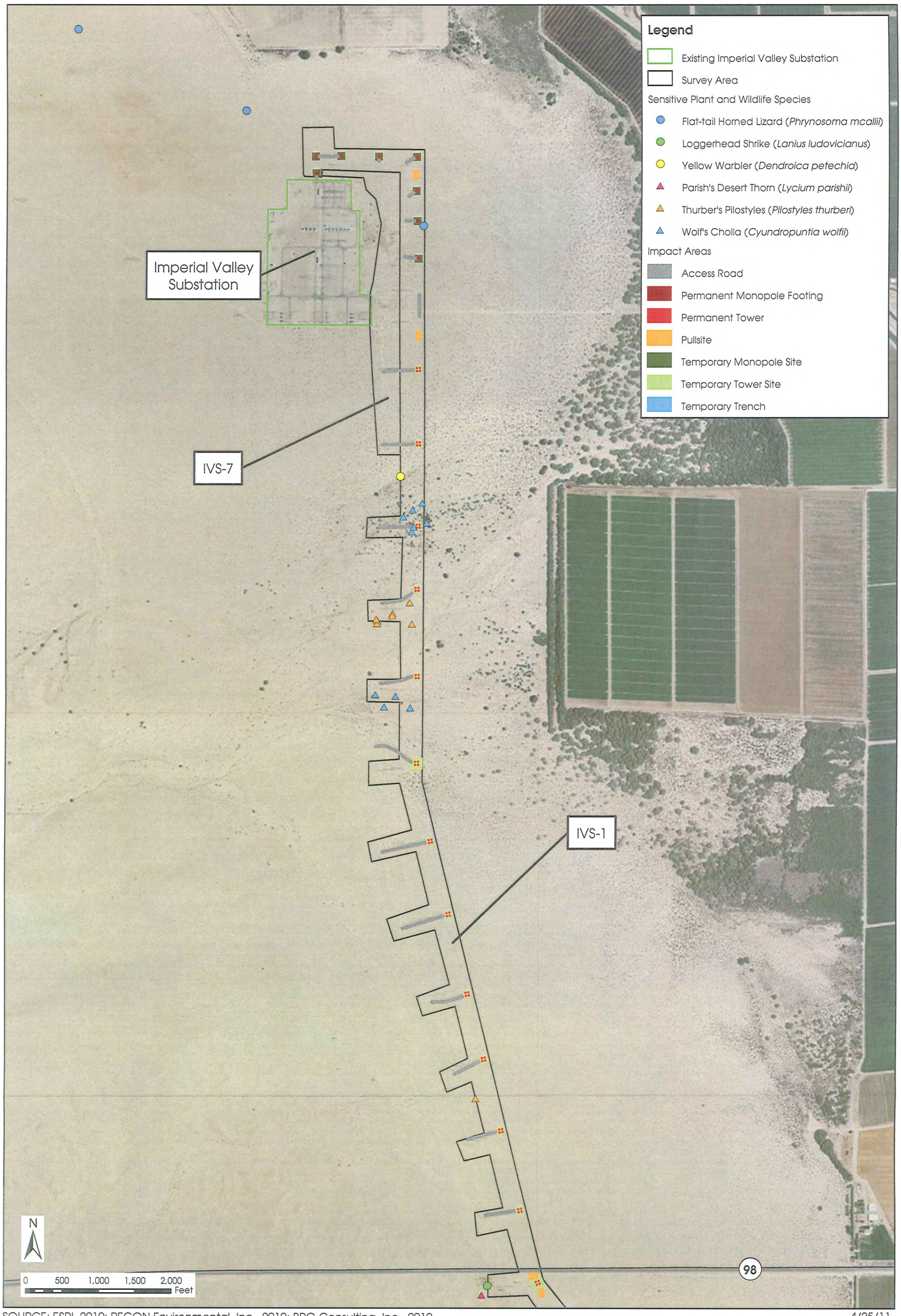
The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action (solar energy facility and proposed transmission line). As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B1. Therefore, significant impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant for purposes of CEQA.

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx. 300 feet) of each active burrow would be considered*, habitat modification that has a substantially adverse effect on* burrowing owls*, and therefore would be* significant under CEQA (Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, thus reducing this impacts to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals my come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantially adverse effect on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.



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

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Impacts to Special Status Species

FIGURE 4.12-2a

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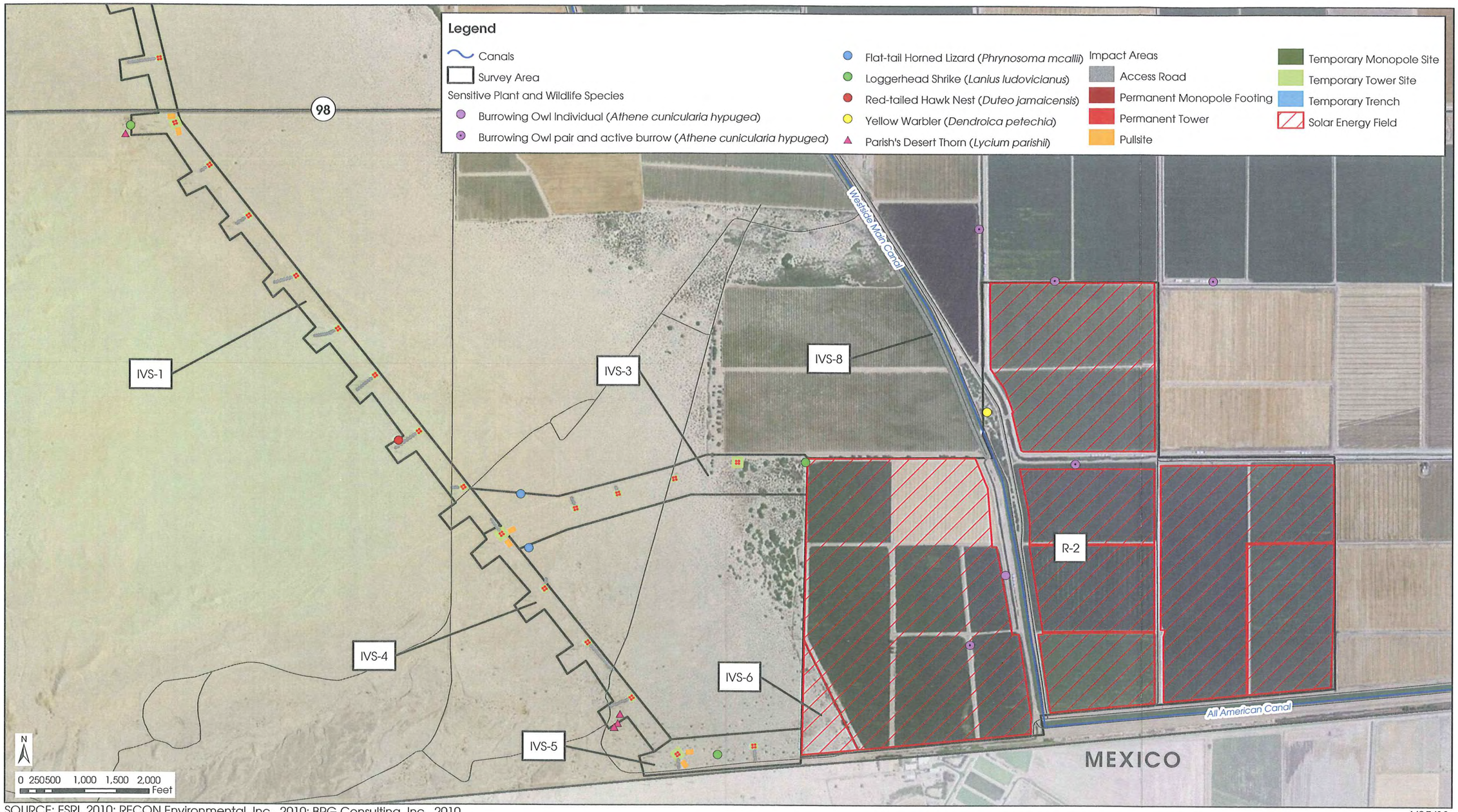

SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Special Status Species

FIGURE 4.12-2b

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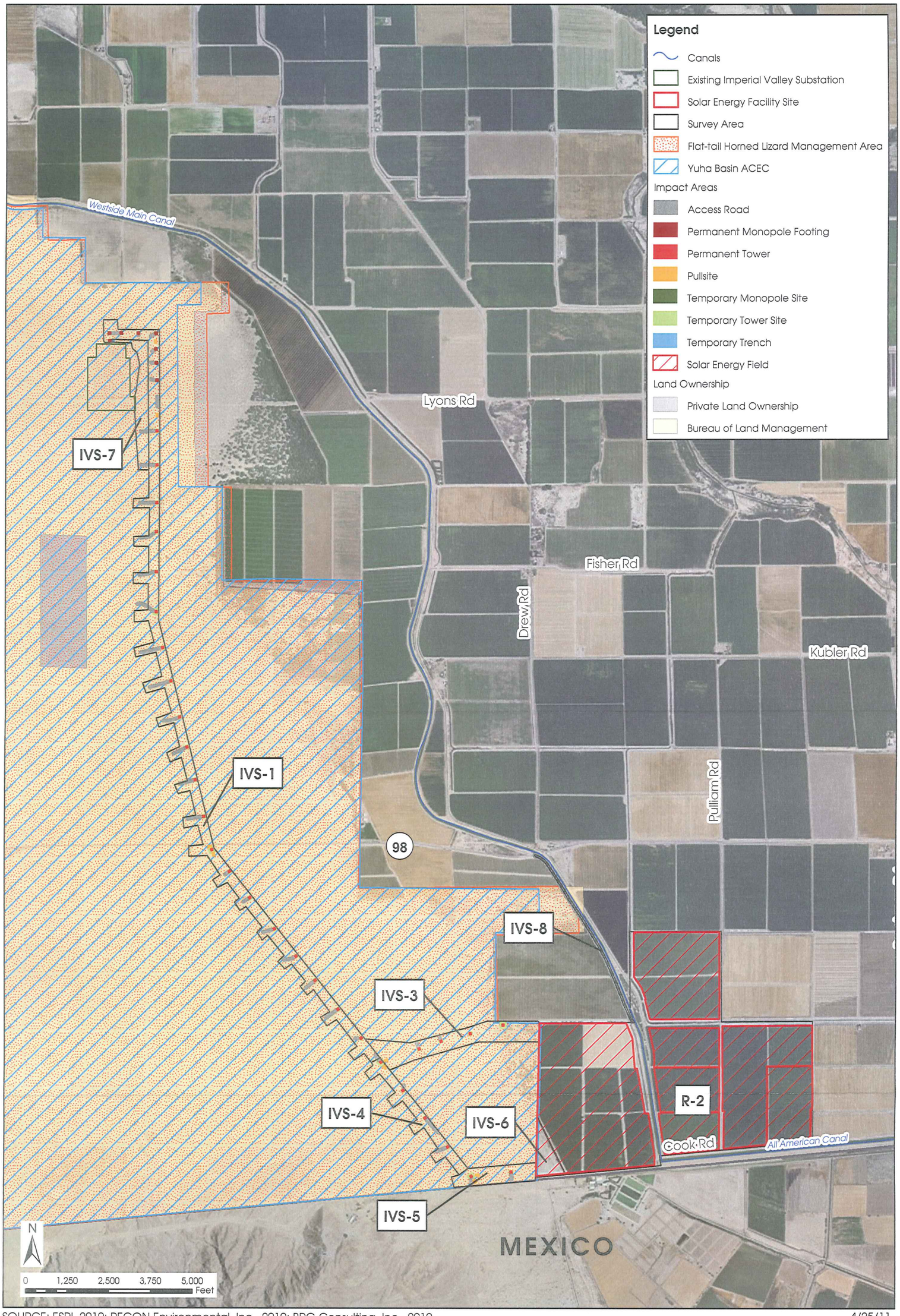

SOURCE: ESRI, 2010; RECON Environmental, Inc., 2010; BRG Consulting, Inc., 2010

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Impacts to Yuha Desert Flat-tail Horned Lizard Management Area

FIGURE 4.12-3

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No equipment or component of the solar energy facility or Proposed Action transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantially adverse effect on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

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. This is considered a significant impact. Implementation of Mitigation Measure B5, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL to a level less than significant under CEQA.

The proposed transmission corridor alternatives are within the Yuha Desert Flat-tailed Horned Lizard Management Area, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy* (RMS; ICC 2003; Attachment 1: Figure 6). Figure 4.12-3 depicts the project's impacts to FTHL habitat within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the Proposed Action transmission line and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80 to 100% shrub cover) to provide habitat for FTHL.

In accordance with the RMS, the proposed impacts to FTHL habitat within the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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 impact up to 2.8 acres and temporarily impact up to 7.3 acres, for a total of 10.1 acres of FTHL habitat within the MA. This impact would be considered significant under CEQA the loss of FTHL habitat has a substantially adverse effect on FTHL. As discussed in section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five Flat-tailed Horned Lizard (FTHL) Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one Management Area is consistent with the conservation objectives of the FTHL RMS. Because the Proposed Action's impacts to FTHL habitat within the Yuha Desert ACEC are within the BLM's 1% limit, impacts to 10.1 ac of FTHL habitat does not rise to the level of significance under CEQA.

The proposed solar energy facility would impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL. The FTHL RMS does not provide guidance with regard to private land; however, the amount of impacted habitat is not significantly more than that associated with the Proposed Action's transmission facilities and therefore is likely not sufficiently sizable to have a substantial adverse effect on FTHL. Additionally, outside of designated access roads for O&M, this habitat will be restored to native desert vegetation after construction. Therefore; this impact to FTHL habitat would not substantially affect the FTHL. For all of these reasons, the Proposed Action's construction-related direct impacts with regard to FTHL would be less than significant under CEQA.

TABLE 4.12-2
Proposed Action Impacts to Flat-tailed Horned Lizard Habitat

FTHL Habitat	Solar Energy Facility Impact (acres)	Proposed Action (IVS-1 + IVS-3) Transmission Line Impacts (acres)	Total (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	--	2.8	2.8
Monopole footings	--	<0.1	<0.1
Lattice tower footings*	--	<0.1	<0.1
Inside Sub-total	--	*2.8*	*2.8*
Private Land Outside FTHL MA	16.8	--	16.8
Outside Sub-total	*16.8*	--	--
Permanent Impacts Total	16.8	2.8	19.6
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	--	0.8	0.8
Monopole work areas	--	1.7	1.7
Lattice tower work areas*	--	4.8	4.8
Trench	--	<0.1	<0.1
Inside Sub-total	--	*7.3*	*7.3*
Temporary Impacts Total	--	7.3	7.3
Total Project Impacts	16.8	10.1	26.9

Source: Recon Environmental, Inc., 2010.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial adverse impacts to FTHL would result. However, with Implementation of Mitigation Measure B4—the Weed Plan--the Proposed Action's construction-related indirect impacts to FTHL are reduced to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access road along the transmission line or the access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of the solar energy facility site, 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 B5, which includes a WEAP to instruct employees regarding measures to avoid and minimize measures to sensitive species, and B5, which includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts, 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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within the MA and the southwest corner of the solar energy facility site. This is considered a significant impact under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Proposed Action site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise

impacts result in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a significant impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact to a level less than significant under CEQA.

The creosote bush-white burr sage scrub and desert wash habitat along the Proposed Action transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. These impacts would be considered significant and would require mitigation. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact to a level less than significant under CEQA.

*Operations and Maintenance Impact – E*lectrocution

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 are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010e) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley

such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

On April 1, 2011, the project applicant completed ESA section 7 consultation for southwestern willow flycatcher. USFWS issued a concurrence letter stating that the Proposed Action "is not likely to adversely affect" this species.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests cause by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests. Implementation of Mitigation Measure B7 will reduce impacts on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

2. Noise

   No equipment or components of the solar energy facility or Proposed Action transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

   Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal

strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the proposed transmission line as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Proposed Action transmission line is situated running west from the solar energy facility for approximately one mile, then northwest to the substation. The majority of the transmission line will run parallel to the migratory flyway. The fact that the proposed line does not bisect the canals and agricultural fields, but is instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the proposed transmission line is situated adjacent to two existing transmission lines, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

Because migratory birds prefer to use the agricultural fields, east of the proposed transmission line location for breeding and foraging activities, as opposed to using, the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. This potential impact to migratory birds, while considered negative to individuals, would be less than significant under CEQA to the migratory populations. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP and will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness.

For all of these reasons, the Proposed Action's impacts on migratory birds will reduced to a level less than significant under CEQA.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2001 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

On April 1, 2011, USFWS requested BLM to enter into conference pursuant to ESA section 7(a)(4). USFWS based its request on the importance of the Imperial Valley for wintering mountain plover and the potential for mountain plover to occur on the project proposed solar energy facility site based on previous observation.

Construction Impact

Direct Effects:

1. Mortality

The risk of death or injury to mountain plover as a result of construction of the Proposed Action is unlikely for the following reasons:

- As this species is not expected to nest within the project site, there is no risk of destroying nests or eggs, harming chicks, or discouraging parents from returning to the nest.
- The species is naturally sensitive and evasive and will readily move out of harm's way to avoid construction activities.

Despite the fact that no mountain plover were observed on the Proposed Action project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase. Grading of the agricultural fields (where plover would occur) is scheduled to occur before plover arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B7 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities. As such, with the implementation of Mitigation Measure B8 this impact under CEQA will be reduced to a level less than significant.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to adversely modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to avian species, potential impacts under CEQA to the mountain plover during construction will be reduced to a level less than significant. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be reduced to a level less than significant under CEQA.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over

approximately 207,000 acres of suitable foraging habitat that is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a substantial impact to mountain plover's foraging resources in the Imperial Valley. However, mitigation measure AR1, which addresses the Proposed Action's impacts with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

For all of these reasons, no significant impact under CEQA due to habitat loss due to the construction of the Proposed Action is expected to occur.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Proposed Action are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Regular solar module washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8 and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M activities, any potential impacts under CEQA to the mountain plover during the operations of the O&M activities on the project site would be reduced to a level less than significant.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy

facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no impact under CEQA to habitat loss due to O&M is expected to occur, and no mitigation is required.

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility, thereby reducing the area's attractiveness to ravens and other large avian predators. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

In summary, for all of the reasons discussed above, the Proposed Action's impacts on mountain plover will be less than significant.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, 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. 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, desert wash, desert saltbush scrub, and arrow weed thicket vegetation are four 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 impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.5 acres of Creosote bush-white burr sage scrub, and 7.3 acres of desert wash. Implementation of Mitigation Measure B1, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of the Proposed Action to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub, desert wash, and arrow weed thicket vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, which will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the State and waters of the U.S. are under the jurisdiction of RWQCB.

Table 4.12-3 shows the Proposed Action impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be impacted by the Proposed Action.

Construction Impact

No impact to ACE jurisdictional waters is anticipated for the solar energy facility, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from

the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12, the Proposed Action would cause permanent impact to CDFG and RWQCB jurisdictional resources because roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash) could be affected. Implementation of Mitigation Measure B9—which requires compensatory habitat in the specified ratios--will reduce this impact to a level less than significant under CEQA.

No impact to ACE jurisdictional waters is expected to occur due to transmission line construction. Temporary impacts to 0.8 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact to a level less than significant under CEQA by preserving approximately 1.7 acres of appropriate riparian lands as compensation for temporary impacts.

TABLE 4.12-3
Proposed Action Jurisdictional Resources Impacts

Jurisdictional Resources	Proposed Action Transmission Line Impacts (acres)
PERMANENT IMPACTS	
CDFG-Riparian	--
Access roads	0.9
Lattice tower footings*	<0.1
Permanent Total	*0.9*
TEMPORARY IMPACTS	
CDFG-Riparian	--
Lattice tower work areas*	0.8
Temporary Total	*0.8*
TOTAL IMPACTS	*1.7*

Notes: *Includes A-frames.
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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No impact to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

For all of these reasons the Proposed Action will have no 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. Therefore, a no significant impact under CEQA is identified for this issue area.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the Proposed Action transmission line would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities. Additional measures are detailed in Mitigation Measure B4.

The existing agricultural uses of R-2 (solar energy facility site) limit connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the Proposed Action. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S./Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, the Proposed Action would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus there is no significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources discussed in Section 4.12.2 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because he Proposed Action is consistent applicable biological resource policies, no impact is anticipated in this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Proposed Action will not conflict with such a plan. No impact is identified in this issue area, and no mitigation is necessary.

4.12.1.2 Alternative 1-Alternative Transmission Line Corridor

The Alternative 1-Alternative Transmission Line Corridor includes the solar energy facility and access road (R-2, IVS-6, and IVS-8) and transmission corridor portions (IVS-1, IVS-4, and IVS-5).

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the proposed Alternative 1-Alternative Transmission Line Corridor are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-4 identifies the permanent and temporary impacts to vegetation communities

Solar Energy Facility Site Vegetation Impact

Implementation of the proposed solar energy facility would permanently impact 819.2 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land are not considered significant under CEQA. Agricultural lands impacted with implementation of Alternative 1-Alternative Transmission Line Corridor are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensive grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds. Desert saltbush scrub and arrow weed thicket vegetation serves as a potential nesting site for birds protected under federal and state laws.

The impact to creosote bush-white burr sage scrub, desert saltbush scrub, and arrow weed thicket is considered a significant impact under CEQA. Implementation of Mitigation Measure B10 will reduce this impact to a level less than significant under CEQA.

Alternative 1-Alternative Transmission Line Corridor Vegetation Impact

The construction of the Alternative 1-Alternative Transmission Line Corridor's transmission line within larger the BLM Utility Corridor would permanently impact 2.6 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash with construction of access roads, monopole footings, and lattice towers associated with the transmission line.

Temporary and direct impacts to creosote bush-white burr sage scrub would result in 6.9 acres with construction of the pullsite, monopole work areas, and trench work. 0.8 acres of desert wash would be temporarily impacted with the proposed construction of the lattice tower sites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Permanent and temporary impacts to creosote bush-white burr sage scrub and desert wash are considered significant. Implementation of Mitigation Measure B10, which requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-13 in this EIR/EA.

With implementation of Mitigation Measure B10, the Alternative 1-Alternative Transmission Line Corridor will not have a substantial adverse effect on the vegetative communities identified above. The compensation requirements will offset temporary and permanent impacts to the vegetative communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds Impact

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into an area by transport on construction equipment or vehicle tires. Additionally construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

While the majority of the proposed solar energy facility site is situated within active agricultural fields, native desert vegetation is found in the southwest corner of the solar energy facility site. During Operations and Maintenance, the solar panels have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the desert vegetation. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987).

To minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. The implementation of the Weed Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Alternative 1-Alternative Transmission Line Corridor construction or operations phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

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

TABLE 4.12-4
Alternative 1-Alternative Transmission Line Corridor Vegetation Community Impacts

Vegetation Community/ Land Cover Types	Solar Energy Facility Impacts (acres)	Alternative 1 Transmission Line Impact (acres)	Alternative 1-Alternative Transmission Line Total Impacts (acres)
Permanent Impact			
Creosote bush-white burr sage scrub (CBS)			
Solar energy facility	16.8	--	16.8
Access Roads	--	2.6	2.6
Monopole footings	--	<0.1	<0.1
Lattice tower sites	--	<0.1	<0.1
CBS Sub-total	--	*2.6*	*19.4*
Desert Saltbush Scrub Access Road (R8)	0.1	--	0.1
Desert Wash (DW)			
Access Roads	--	0.6	0.6
Lattice tower sites	--	<0.1	<0.1
DW Sub-total	--	*0.6*	*0.6*
Arrow weed thicket Access Road (R8)	0.3	--	0.3
Active Agriculture (AG)	819.2	--	819.2
Disturbed land (DL)	7.9	--	7.9
Permanent Total	844.3	3.2	847.5
Temporary Impact			
Creosote bush-white burr sage scrub (CBS)			
Pullsite	--	1.0	1.0
Monopole work areas	--	1.7	1.7
Lattice tower work areas	--	4.2	4.2
Trench	--	<0.1	<0.1
CBS Sub-total	--	*6.9*	*6.9*
Desert Wash (DW)			
Lattice tower sites	--	0.8	0.8
DW Sub-total	--	*0.8*	*0.8*
Temporary Total	--	7.7	7.7
Total Alternative 1-Alternative Transmission Line Corridor Impacts	844.3	10.9	855.2

Source: RECON Environmental Inc., 2010.

Special Status and Priority Plants

Three priority plant species were observed within the survey area during spring rare plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Alternative 1-Alternative Transmission Line Corridor's transmission line in the BLM Utility Corridor) falls within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted. However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population. Accordingly, this impact is considered less than significant under CEQA.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly impacted by the Proposed Action.

Sensitive Wildlife

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).

Figure 4.12-2b depicts the location of burrowing owls on the solar energy facility. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during the focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of Alternative 1-Alternative Transmission Line Corridor would grade the solar energy facility during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification with a substantial adverse effect to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Management Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines. With development and ongoing implementation of Burrowing

Owl Management Plan, construction-related modification of landscape features potentially used as burrows by burrowing owls, this impact would be reduced to a level less than significant under CEQA.

The creosote bush-white burr sage scrub vegetation along the Alternative 1-Alternative Transmission Line Corridor's proposed transmission line and the active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the proposed transmission line and solar energy facility. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under B10. Therefore adverse impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant for purposes of CEQA.

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered. *Habitat modification that has a substantially adverse effect on* burrowing owls *would be* significant under CEQA (Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, thus reducing this impacts to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals my come in direct contact with project components that could kill or injure them. However, implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantially adverse effect on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or proposed Alternative 1-Alternative Transmission Line Corridor's transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantially adverse effect on burrowing owls. Accordingly, no significant impact under CEQA due to noise is expected to occur to this species.

Flat-tailed Horned Lizard

Construction Impact

Direct impacts to FTHL may occur during construction of the Alternative 1–Alternative Transmission Line Corridor proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. This is considered a significant impact. Implementation of Mitigation Measures B5 and B11, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL to a level less than significant under CEQA.

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* (RMS; ICC 2003; Attachment 1: Figure 6). The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the proposed transmission corridor and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80-100% shrub cover) to provide suitable habitat for FTHL.

In accordance with the RMS, the proposed impacts to the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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, Alternative 1-Alternative Transmission Line Corridor may permanently impact up to 3.2 acres and temporarily impact up to 7.7 acres, for a total of 10.9 acres of FTHL habitat within the MA. This impact would be considered significant under CEQA because the loss of FTHL habitat has a substantially adverse effect on FTHL. As discussed in section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five Flat-tailed Horned Lizard (FTHL) Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area

in any one Management Area is consistent with the conservation objectives of the FTHL RMS. Because the Proposed Action's impacts to FTHL habitat within the Yuha Desert ACEC are within the BLM's 1% limit, impacts to 10.1 acres of FTHL habitat does not rise to the level of significance under CEQA.

TABLE 4.12-5
Alternative 1-Alternative Transmission Line Corridor Impacts to Flat-tailed Horned Lizard Habitat

FTHL Habitat	Solar Energy Facility Impact (acres)	Alternative 1 (IVS-1, IVS-4, & IVS-5) Transmission Line Impact (acres)	Total (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	--	3.2	3.2
Monopole footings	--	<0.1	<0.1
Lattice tower footings*	--	<0.1	<0.1
Inside Sub-total	--	*3.2*	*3.2*
Private Land Outside FTHL MA	16.8	--	16.8
Outside Sub-total	*16.8*	--	*16.8*
Permanent Impacts Total	16.8	3.2	20.0
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	--	1.0	1.0
Monopole work areas	--	1.7	1.7
Lattice tower work areas*	--	5.0	5.0
Trench	--	<0.1	<0.1
Inside Sub-total	--	*7.7*	*7.7*
Temporary Impacts Total	--	7.7	7.7
Total Project Impacts	16.8	10.9	27.7

Source: RECON Environmental, Inc., 2010.

The proposed solar energy facility site would impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL. The FTHL RMS does not provide guidance with regard to private land; however, the amount of impacted habitat is not significantly more than that associated with the Alternative 1–Alternative Transmission Line transmission facilities and therefore is likely not sufficiently sizable to have a substantial adverse effect on FTHL. Additionally, outside of designated access roads for O&M, this habitat will be restored to native desert vegetation after construction. Therefore; this impact to FTHL habitat would not substantially adversely affect FTHL.

For all of these reasons, the Alternative 1-Alternative Transmission Line Corridor's construction-related direct impacts with regard to FTHL would be less than significant under CEQA.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can

transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial adverse impacts to FTHL would result. However, with Implementation of Mitigation Measure B4—the Weed Plan--the Alternative 1-Alternative Transmission Line Corridor's construction-related indirect impacts to FTHL are reduced to a level less than significant under CEQA.

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, 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 the access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of solar energy facility site, 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 B5, which includes a WEAP to instruct employees regarding measures to avoid and minimize measures to sensitive species, and B5, which includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts, 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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within the MA and the southwest corner of the solar energy facility site. This is considered a significant impact under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 1–Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts result in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, which would constitute a significant impact

under CEQA. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact to a level less than significant under CEQA.

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 1–Alternative Transmission Line Corridor transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. These impacts would be considered significant and would require mitigation. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact 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's transmission line are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Alternative 1-Alterantive Transmission Line Corridor's transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010e) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley

such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests. Implementation of Mitigation Measure B7 will reduce impacts on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory birth species or have a substantial effect on habitat.

2. Noise

No equipment or components of the solar energy facility or Alternative 1-Alternative Transmission Line Corridor's transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The

agricultural fields east of the proposed transmission line as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Alternative 1-Alternative Transmission Line Corridor's transmission line is situated running west from the solar energy facility for approximately one mile, then northwest to the substation. The majority of the transmission line will run parallel to the migratory flyway. The fact that the proposed line does not bisect the canals and agricultural fields, but is instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the proposed transmission line is situated adjacent to two existing transmission lines, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

Because migratory birds prefer to use the agricultural fields east of the proposed transmission line location for breeding and foraging activities, as opposed to using the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. This potential impact to migratory birds, while considered negative to individuals, would be less than significant under CEQA to the migratory populations. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP and will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness.

For all of these reasons, this alternative's impact to migratory birds is reduced to a level less than significant.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2001 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

Construction Impact

Direct Effects:

1. Mortality

The risk of death or injury to mountain plover as a result of construction of the Alternative 1-Alternative Transmission Line Corridor is unlikely for the following reasons:

- As this species is not expected to nest within the project site, there is no risk of destroying nests or eggs, harming chicks, or discouraging parents from returning to the nest.
- The species is naturally sensitive and evasive and will readily move out of harms way to avoid construction activities.

Despite the fact that no mountain plover were observed on the Proposed Action project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase. Grading of the agricultural fields (where plover would occur) is scheduled to occur before plover arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B8 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities. As such, with the implementation of Mitigation Measure B8 this impact under CEQA will be reduced to a level less than significant.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to adversely modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to avian species, potential impacts under CEQA to the mountain plover during construction will be reduced to a level less than significant. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be unlikely.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over approximately 207,000 acres of suitable foraging habitat that is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a substantial impact to mountain plover's foraging resources in the Imperial Valley. However, mitigation measure AR1, which addresses the Alternative 1-Alternative Transmission Line Corridor's impacts with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

For all of these reasons, no significant impact under CEQA due to habitat loss due to the construction of the Proposed Action is expected to occur.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Alternative 1-Alternative Transmission Line Corridor are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Regular solar module washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8, and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M activities, any potential impacts under CEQA to the mountain plover during the operations of the O&M activities on the project site would be reduced to a level less than significant.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no impact under CEQA to habitat loss due to O&M is expected to occur and no mitigation is required

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan

will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility, thereby reducing the area's attractiveness to ravens and other large avian predators. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and 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 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, arrow weed thicket, and desert wash, desert saltbush scrub, and arrow weed thicket vegetation are four sensitive natural communities potentially affected by the Alternative 1-Alternative Transmission Line Corridor's transmission line. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.9 acres of creosote bush-white burr sage scrub, 0.3 acres of arrow weed thicket, and 7.7 acres of desert wash. Implementation of Mitigation Measure B10, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of Alternative 1–Alternative Transmission Line Corridor to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 1-Alternative Transmission Line Corridor 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, arrow weed thicket, and desert wash communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, will reduce the indirect impact to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the state and waters of the U.S. are under the jurisdiction of RWQCB.

Table 4.12-6 shows the proposed project impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be impacted.

TABLE 4.12-6
Alternative 1-Alternative Transmission Line Corridor
Jurisdictional Resources Impacts

Jurisdictional Resources	Alternative 1-Alternative Transmission Line Impacts (acres)
PERMANENT IMPACTS	
CDFG-Riparian	
Access roads	0.9
Lattice tower footings*	<0.1
Permanent Total	*0.9*
TEMPORARY IMPACTS	
CDFG-Riparian	
Lattice tower work areas*	0.8
Temporary Total	*0.8*
TOTAL IMPACTS	*1.7*

*Includes A-frames.
Source: RECON Environmental, Inc., 2010.

Construction Impact

No impact to ACE is anticipated for the solar energy facility, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12, Alternative 1–Alternative Transmission Line Corridor would cause permanent impacts to CDFG and RWQCB jurisdictional resources because roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash) would be impacted. Implementation of Mitigation Measure B9, which requires compensatory habitat in the specified ratios, will reduce this impact to a level less than significant under CEQA.

No impacts under ACE jurisdictional waters are expected to occur due to transmission line construction. Temporary impacts to 1.7 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact to a level less than significant under CEQA by providing compensatory land in the ratios specified.

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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No impact to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

For all of these reasons Alternative 1-Alternative Transmission Line Corridor will have no 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.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: *Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the Alternative 1-Alternative Transmission Line Corridor's transmission line would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities. Additional measures are detailed in Mitigation Measure B4.

The existing agricultural uses of R-2 (solar energy facility) limits connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the proposed project. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S.–Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, Alternative 1-Alternative Transmission Line corridor would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus there is no significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Alternative 1-Alternative Transmission Line Corridor's transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources discussed in Section 4.12.2 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because Alternative 1–Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no impact is anticipated in this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, Alternative 1-Alternative Transmission Line Corridor will not conflict with such a plan. No impact is identified in this issue area, and no mitigation is necessary.

4.12.1.3 Alternative 2-Reduced Solar Energy Facility Site

The Alternative 2-Reduced Solar Energy Facility Site reflects a reduction in the size of the solar energy facility site within the active agricultural fields to 476.4 acres. The transmission route for Alternative 2 is similar to the Proposed Action transmission line route and includes IVS-1 and IVS-3.

A. Impact to Vegetation Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Impacts to vegetation communities within the Alternative 2-Reduced Solar Energy Facility site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-7 identifies the permanent and temporary impacts to vegetation communities for Alternative 2-Reduced Solar Energy Facility Site.

TABLE 4.12-7
Alternative 2-Reduced Solar Energy Facility Site Vegetation Community Impacts

Vegetation Community/ Land Cover Types	Reduced Solar Energy Facility Impacts (acres)	Proposed Action Transmission Line Impact (acres)	Total Alternative 2-Reduced Solar Energy Facility Site Impacts (acres)
Permanent Impact			
Creosote bush-white burr sage scrub (CBS)			
Solar energy facility	16.8	--	16.8
Access Roads	--	2.2	2.2
Monopole footings	--	<0.1	<0.1
Lattice tower sites	--	<0.1	<0.1
CBS Sub-total	--	*2.2*	*19.0*
Desert Saltbush Scrub (DSS) Access Road (R8)	0.1	--	0.1
Desert Wash (DW)			
Access Roads	--	0.6	0.6
Lattice tower sites	--	<0.1	<0.1
DW Sub-total	--	*0.6*	*0.6*
Arrow Weed Thicket Access Road (R8)	0.3		0.3
Active Agriculture (AG)	458.1	-	458.1
Disturbed land (DL)	7.9	--	7.9
Permanent Total	483.2	2.8	486.0
Temporary Impact			
Creosote bush-white burr sage scrub (CBS)			
Pullsite	--	0.8	0.8
Monopole work areas	--	1.7	1.7
Lattice tower work areas	--	4.0	4.0
Trench	--	<0.1	<0.1
CBS Sub-total	--	*6.5*	*6.5*
Desert Wash (DW)			
Lattice tower sites	--	0.8	0.8
DW Sub-total	--	*0.8*	*0.8*
Temporary Total	--	7.3	7.3
Total Alternative 2-Reduced Solar Energy Facility Site Impacts	483.2	10.1	493.3

Source: RECON Environmental Inc., 2010.

Solar Energy Facility Site Vegetation Impact

Implementation of the proposed solar energy facility and associated access road would permanently impact 458.1 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land are not considered significant. Agricultural lands impacted with implementation of Alternative 2-Reduced Solar Energy Facility Site are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensity grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds.

Implementation of Mitigation Measure B12 will reduce this impact to a level less than significant under CEQA.

Alternative 2-Reduced Solar Facility Site, Transmission Line (Proposed Action Transmission Line) Vegetation Impact

The construction of Alternative 2 transmission line within the larger BLM Utility Corridor would permanently impact 2.2 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash. Permanent and direct impact occurs where the surface of the ground would be permanently disturbed. Specifically, a permanent and direct impact would occur where new access roads and footings or anchors for tower, monopole, or crossing structures are constructed. Temporary impacts to creosote bush-white burr sage scrub would result in 6.5 acres, and 0.8 acres of desert wash. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible including work areas around towers/monopoles and pullsites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Permanent and temporary direct impacts to creosote bush-white burr sage scrub and desert wash are considered significant. Implementation of Mitigation Measure B12 requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-15 in this EIR/EA.

With implementation of Mitigation Measure B12, the Alternative 2-Reduced Solar Energy Facility Site will not have a substantial adverse effect on the vegetative communities identified above. The compensation requirements will offset temporary and permanent impacts to the vegetative communities to a level less than significant under CEQA.

B. Noxious, Invasive and Non-Native Weeds

The spread of invasive and noxious weeds poses a threat to agricultural and natural resources by reducing crop production and displacing native plant species, increasing the threat of wildfires, supplanting natural

food for wildlife and altering the structure and ecological functions of natural habitats. Construction activities and soil disturbance can facilitate the introduction and/or spread of invasive, noxious, and/or non-native plant species. New introductions may occur when seed is inadvertently brought into an area, most often in mulch, straw wattles, hay bales, and seed mixes used for erosion control. Seed may also be introduced into an area by transport on construction equipment or vehicle tires. Additionally, construction activities can result in the proliferation and spread of weed species that may already be present in the area as a result of grading and other site disturbances that alter the natural vegetation and disrupt the soils.

While the majority of the proposed solar energy facility site is situated within active agricultural fields, native desert vegetation is found in the southwest corner of the solar energy facility site. During Operations and Maintenance, the solar panels have the potential to facilitate the growth and spread of weed species by altering the natural hot, dry conditions typical of the desert vegetation. Increased shading of the ground results in cooler moister areas that may favor colonization of weedy species (Smith 1984, Smith et al. 1987).

To minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified onsite that will be targeted for eradication or control, as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by Alternative 2-Reduced Solar Facility Site construction or operations phases' introduction or proliferation of invasive and noxious weeds to a level less than significant under CEQA.

C. Impact to Special Status Species

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

Special Status and Priority Plants

Three priority plant species were observed within the survey area during spring rage plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Alternative 2 – Reduced Solar Energy Facility Site transmission line in the BLM Utility Corridor) is located within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted. However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population. This impact is considered negative, but less than significant under CEQA.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly impacted by Alternative 2 – Reduced Solar Energy Facility Site.

Sensitive Wildlife

Burrowing Owl

Construction Impact

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation defines an impact to burrowing owl as:

- Disturbance within 50 meters (approximately 160 feet) which may result in harassment of owls at occupied burrows;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to burrowing owls); and,
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow(s).

Figure 4.12-2b depicts the location of burrowing owls on the solar energy facility site. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during the focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of Alternative 2-Reduced Solar Energy Facility Site would involve grading the solar energy facility site during construction, including any berms and culverts that may host burrowing owl. This is considered a significant impact under CEQA to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification with a substantial adverse effect to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Management Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines. With development and ongoing implementation of Burrowing Owl Management Plan, construction-related modification of landscape features potentially used as burrows by burrowing owls, 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 active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the proposed transmission line and solar energy facility. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under B12. Therefore adverse impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is mitigated to a level less than significant for purposes of CEQA.

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered *Habitat modification that has a substantially adverse effect on* burrowing owls *would be* significant under CEQA (Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, thus reducing this impacts to a level less than significant under CEQA.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a potentially significant impact under CEQA because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B5, which specifically sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact to a level less than significant under CEQA.

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a substantially adverse effect on burrowing owls. No significant impact under CEQA due to lighting is anticipated to occur to the burrowing owl during O&M activities.

No equipment or component of the solar energy facility or proposed transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a substantially adverse effect on burrowing owls. As such, no significant impact under CEQA due to noise is expected to occur to this species.

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. This is considered a significant impact. Implementation of Mitigation Measure B5, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL to a level less than significant under CEQA.

The proposed transmission corridor is within the Yuha Desert Flat-tailed Horned Lizard Management Area, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy* (RMS; ICC 2003; Attachment 1: Figure 6). The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the proposed transmission corridor and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80 to 100% shrub cover) to provide habitat for FTHL.

In accordance with the RMS, the proposed impacts to the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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, Alternative 2-Reduced Solar Energy Facility Site, for electrical transmission may permanently impact up to 2.8 acres and temporarily impact up to 7.3 acres, for a total of 10.1 acres of FTHL habitat within the MA. This impact would be considered significant under CEQA because the loss of FTHL habitat has a substantially adverse effect on FTHL. As discussed in Section 3.2 of this EIR/EA, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five FTHL Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one Management Area is consistent with the conservation objectives of the FTHL RMS. Because Alternative 2 – Reduced Solar Energy Facility's impacts to FTHL habitat within the Yuha Desert ACEC are within the BLM's 1% limit, impacts to 10.1 ac of FTHL habitat does not rise to the level of significance under CEQA.

The proposed solar facility would impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL. The FTHL RMS does not provide guidance with regard to private land; however, the amount of impacted habitat is not significantly more than that associated with the Alternative 2–Reduced Solar Energy Facility's transmission facilities and therefore is likely not sufficiently sizable to have a substantial adverse effect on FTHL. Additionally, outside of designated

access roads for O&M, this habitat will be restored to native desert vegetation after construction. Therefore; this impact to FTHL habitat would not substantially adversely affect FTHL.

For all of these reasons, the Proposed Action's construction-related direct impacts with regard to FTHL would be less than significant under CEQA.

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a significant indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial adverse impacts to FTHL would result. However, with Implementation of Mitigation Measure B5 - the Weed Plan, the Alternative 2–Reduced Solar Energy Facility's construction-related indirect impacts to FTHL are reduced to a level less than significant under CEQA.

TABLE 4.12-8
Alternative 2-Reduced Solar Energy Facility Impacts to Flat-tailed Horned Lizard Habitat

FTHL Habitat	Reduced Solar Energy Facility Impact (acres)	Proposed Action (IVS-1 + IVS-3) Transmission Line Impacts (acres)	Total (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	--	2.8	2.8
Monopole footings	--	<0.1	<0.1
Lattice tower footings*	--	<0.1	<0.1
Inside Sub-total	--	*2.8*	*2.8*
Private Land Outside FTHL MA	16.8	--	16.8
Outside Sub-total	*16.8*	--	--
Permanent Impacts Total	16.8	2.8	19.6
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	--	0.8	0.8
Monopole work areas	--	1.7	1.7
Lattice tower work areas*	--	4.8	4.8
Trench	--	<0.1	<0.1
Inside Sub-total	--	*7.3*	*7.3*
Temporary Impacts Total	--	7.3	7.3
Total Project Impacts	16.8	10.1	26.9

Source: RECON Environmental, Inc. 2010.

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, 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 access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of the solar energy facility site, 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 B5, which includes a WEAP to instruct employees regarding measures to avoid and minimize measures to sensitive species, and includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts, and 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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within the MA and the southwest corner of the solar energy facility site. This is considered a significant impact under CEQA. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact to a level less than significant under CEQA.

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 2-Reduced Solar Energy Facility Site project site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a significant impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact to a level less than significant under CEQA.

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 2-Reduced Solar Energy Facility Site transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related impacts to this foraging habitat may occur by virtue of raptors being

stressed or disturbed by the construction activities and the presence of humans and construction equipment. These impacts would be considered significant and would require mitigation. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact 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 are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. Therefore, no mitigation would be required. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010e) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. Mitigation Measure B7, specifically the ABPP, will provide the applicant the vehicle to comply with MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests cause by construction noise and the presence of humans and

construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests. Implementation of Mitigation Measure B7 will reduce impacts of Alternative 2-Reduced Solar Energy Facility Site on migratory birds to a level less than significant under CEQA.

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility site would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory birth species or have a substantial effect on habitat.

2. Noise

   No equipment or components of the solar energy facility or the Alternative 2-Reduced Solar Energy Facility Site transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

   Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Ground wires are installed on transmission lines to dissipate lighting strikes thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires, transmission tower guy wires, and other structures associated primarily with electrical power transmission.

   The survey area is situated along the Pacific Coast Migratory Route (USGS 2010), which encounters migratory birds moving northwest from Mexico into California and the Pacific Northwestern U.S. The agricultural fields east of the proposed transmission line as well as the Westside Canal and other irrigation channels, are known to provide habitat for many of the migratory bird species moving through the area. The Proposed Action transmission line is situated running west from the solar energy facility for approximately one mile, then northwest to the substation. The majority of the transmission line will run parallel to the migratory flyway. The fact that the proposed line does not bisect the canals and agricultural fields, but is instead situated west of the fields, is likely to reduce the potential for avian collision along the transmission corridor. In addition, the proposed transmission line is situated adjacent to two existing transmission lines, which would increase the visibility of the lines and may reduce the likelihood of collision with the lines.

Because migratory birds prefer to use the agricultural fields east of the proposed transmission line location for breeding and foraging activities the agricultural fields as opposed to the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. This potential impact to migratory bird populations, while considered negative to individuals, would be less than significant under CEQA. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP and will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness. For all of these reasons, this alternative's potential impacts on migratory birds are reduced to a level less than significant under CEQA.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2011 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

Construction Impact

Direct Effects:

1. Mortality

The risk of death or injury to mountain plover as a result of construction of the Alternative 2-Reduced Solar Energy Facility Site is unlikely for the following reasons:

- As this species is not expected to nest within the project site, there is no risk of destroying nests or eggs, harming chicks, or discouraging parents from returning to the nest.
- The species is naturally sensitive to evasive and will readily move out of harms way to avoid construction activities.

Despite the fact that no mountain plover were observed on the Alternative 2-Reduced Solar Energy Facility Site's project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase. Grading of the agricultural fields (where plover would occur) is scheduled to occur before plover arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B7 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities. As such, with the implementation of Mitigation Measure B8 this impact under CEQA will be reduced to a level less than significant.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to adversely modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to avian species, potential impacts under CEQA to the mountain plover during construction will be reduced to a level less than significant. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be reduced to a level less than significant under CEQA.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over approximately 207,000 acres of suitable foraging habitat is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a substantial impact to mountain plover's foraging resources in the Imperial Valley. However, Mitigation Measure AR1, which addresses the impacts of Alternative 2-Reduced Solar Energy Facility with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

For all of these reasons, no significant impact under CEQA due to habitat loss due to the construction of the Proposed Action is expected to occur.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Alternative 2-Reduced Solar Energy Facility Site are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction

activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Regular solar module washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8, and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M activities any potential impacts under CEQA to the mountain plover during the operations of the O&M activities on the project site would be reduced to a level less than significant.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no impact under CEQA to habitat loss due to O&M is expected to occur, and no mitigation is required under CEQA.

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility, thereby reducing the area's attractiveness to ravens and other large avian predators. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed

Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this potential significant impact under CEQA to the mountain plover will be reduced to a level less than significant under CEQA.

D. Impact to Riparian Habitat or Sensitive Natural Communities

Indicator 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, 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 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, desert wash, desert saltbush scrub, and arrow weed thicket vegetation are four sensitive natural communities potentially affected by Alternative 2-Reduced Solar Energy Facility Site. These communities are considered sensitive whether or not they have been disturbed.

Construction Impact

The proposed impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered significant under CEQA and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.5 acres of Creosote bush-white burr sage scrub, 0.3 acres of arrow weed thicket, and 7.3 acres of desert wash. Implementation of Mitigation Measure B12, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts of Alternative 2-Reduced Solar Energy Facility Site to a level less than significant under CEQA.

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a significant indirect impact under CEQA to the creosote bush–white burr sage scrub, desert wash, and arrow weed thicket vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources. Implementation of Mitigation Measure B2, the Weed Plan, which will reduce the indirect impact of Alternative 2-Reduced Solar Energy Facility to these natural communities to a level less than significant under CEQA by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

E. Impact to Jurisdictional Waters

Indicator 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

All wetland areas, wetland buffer areas, and non-wetland waters of the U.S. are considered sensitive. Wetlands and non-wetland waters are under the jurisdiction of ACE. Streambeds and associated vegetation are under the jurisdiction of CDFG. Waters of the state and waters of the U.S. are under the jurisdiction of RWQCB.

Table 4.12-9 shows the proposed project impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be impacted by the Alternative 2-Reduced Solar Energy Facility Site.

TABLE 4.12-9
Alternative 2-Reduced Solar Energy Facility Site Jurisdictional Resources Impacts

Jurisdictional Resources	Alternative 2 Transmission Line Impacts (acres)
PERMANENT IMPACTS	
CDFG-Riparian	
Access roads	0.9
Lattice tower footings*	<0.1
Permanent Total	*0.9*
TEMPORARY IMPACTS	
CDFG-Riparian	
Lattice tower work areas*	0.8
Temporary Total	*0.8*
TOTAL IMPACTS	*1.7*

*Includes A-frames.
Source: RECON Environmental Inc., 2010.

Construction Impact

No impact to ACE is anticipated for the solar energy facility, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12, Alternative 2-Reduced Solar Energy Facility Site would cause permanent impacts to CDFG and RWQCB jurisdictional resources. Roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash would be impacted. Implementation of Mitigation Measure B9 will reduce this impact to a level less than significant under CEQA.

No impacts under to ACE jurisdictional waters are expected to occur due to transmission line construction. Temporary impacts to 1.7 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact to a level less than significant under CEQA providing compensatory land in the ratios specified.

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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No impact to jurisdictional resources due to O&M is expected to occur, and no mitigation is required.

For all of these reasons Alternative 2-Reduced Solar Energy Facility Site will have no 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.

F. Impact to Wildlife Movement and Nursery Sites

Indicator 4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* which require a minimization of habitat disturbance along the Proposed Action Transmission Line, would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities Additional measures are detailed in Mitigation Measure B4.

The existing agricultural uses of R-2 (solar energy facility site) limit connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the proposed project. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S.–Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, Alternative 2-Reduced Solar Energy Facility Site would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Thus there is no significant impact under CEQA to wildlife movement or nursery sites, and no additional mitigation would be required.

G. Impact to California Desert Conservation Area

Indicator 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Indicator 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources discussed in Section 4.12.2 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Because Alternative 2-Reduced Solar Energy Facility Site is consistent with applicable biological resource policies, no impact is anticipated in this issue area, and no mitigation is necessary.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of Alternative 2-Reduced Solar Energy Facility Site will not conflict with such a plan. No impact is identified in this issue area, and no mitigation is necessary.

4.12.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no impacts on biological resources from the Alternative 3-No Action/No Project Alternative.

4.12.1.5 CEQA Impact Summary

A. Proposed Action

Implementation of Mitigation Measures B1 through B9 would reduce the impacts to biological resources to a level less than significant under CEQA

B. Alternative 1-Alternative Transmission Line Corridor

Implementation of Mitigation Measures B2 through B9 and B10 through B11 would reduce the impacts to biological resources to a level less than significant under CEQA.

C. Alternative 2-Reduced Solar Energy Facility Site

Implementation of Mitigation Measures B2 through B9 and B12 through B13 would reduce the impacts to biological resources to a level less than significant under CEQA.

D. Alternative 3-No Action/No Project Alternative

The Alternative 3-No Action/No Project Alternative will not result in biological resources impacts under CEQA. Therefore, no mitigation is required.

4.12.2 NEPA Environmental Assessment Summary

4.12.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above in Section 4.12.1.1, impacts to vegetation communities within the Proposed Action site are depicted on Figures 4.12-1a and 4.12-1b above. Table 4.12-1 above identifies the permanent and temporary impacts to vegetation communities for the Proposed Action.

Impact to Vegetation Communities

Solar Energy Facility Site Vegetation Impact

Implementation of the proposed solar energy facility and associated access road would permanently impact 819.2 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land are not considered significant. Agricultural lands impacted with implementation of the Proposed Action are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensity grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds. As such, the Proposed Action would directly impact vegetation habitats on the solar energy facility site (NEPA Indicator #2). Implementation of Mitigation Measure B1, which requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-10 above, will reduce this impact.

Proposed Action Transmission Line Vegetation Impact

The construction of the Proposed Action's transmission line within the larger BLM Utility Corridor would permanently impact 2.2 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash. Permanent and direct impact occurs where the surface of the ground would be permanently disturbed. Specifically, a permanent and direct impact would occur where new access roads and footings or anchors for tower, monopole, or crossing structures are constructed.

Temporary and direct impacts to creosote bush-white burr sage scrub would result in 6.5 acres, and 0.8 acres of desert wash. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible including work areas around towers/monopoles and pullsites.

Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Implementation of the Proposed Action would result in temporary and permanent direct impacts to creosote bush-white burr sage scrub and desert wash (NEPA Indicator #2). Implementation of Mitigation Measure B1, which requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-10 above, will reduce this impact.

Noxious, Invasive and Non-Native Weeds Impact

Based on the analysis provided above under Section 4.1.12.1, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Proposed Action's construction or operations phases' introduction or proliferation of invasive and noxious weeds (NEPA Indicator #2)

Impact to Special Status Species

Special Status and Priority Plants

As discussed above under Section 4.12.1.1, three priority plant species were observed within the survey area during spring rage plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a above, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Proposed Action transmission line in the BLM Utility Corridor) is located within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted (NEPA Indicator #1). However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly or indirectly impacted by the Proposed Action (NEPA Indicator #1).

Sensitive Wildlife

Burrowing Owl

Construction Impact

Figure 4.12-2b above depicts the location of burrowing owls on the solar energy facility. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during the

focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of the Proposed Action would involve grading the solar energy facility site during construction, including any berms and culverts that may host burrowing owl. This is considered a direct impact to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Mitigation and Monitoring Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines, this impact would be reduced (NEPA Indicator #1).

The creosote bush-white burr sage scrub vegetation along the Proposed Action transmission line and the active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the Proposed Action (solar energy facility and proposed transmission line). As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B1. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is reduced (NEPA Indicator #1).

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct and indirect impact on burrowing owls (NEPA Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, which will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a direct impact because individuals my come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact (NEPA Indicator #1).

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification with direct or indirect impact on burrowing owls. The Proposed Action would not result in direct or indirect impacts to the burrowing owl due to lighting during O&M activities.

No equipment or component of the solar energy facility or Proposed Action transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls (NEPA Indicator #1).

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. Implementation of Mitigation Measure B5, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL (NEPA Indicator #1).

The proposed transmission corridor alternatives are within the Yuha Desert Flat-tailed Horned Lizard Management Area, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy* (RMS; ICC 2003; Attachment 1: Figure 6). Figure 4.12-3 above depicts the project's impacts to FTHL habitat within the Yuha Desert Flat-tailed Horned Lizard Management Area. The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the Proposed Action transmission line and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80 to 100% shrub cover) to provide habitat for FTHL.

In accordance with the RMS, the proposed impacts to FTHL habitat within the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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 above, the Proposed Action for electrical transmission may permanently impact up to 2.8 acres and temporarily impact up to 7.3 acres, for a total of 10.1 acres of FTHL habitat within the MA. The loss of FTHL habitat would directly impact the FTHL. As discussed in EIR/EA Section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five FTHL Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one Management Area is consistent with the conservation objectives of the FTHL RMS. The Proposed Action's impacts to FTHL habitat within the Yuha Desert MA are within the BLM's 1% limit, impacts to 10.1 ac of FTHL habitat. The Proposed Action would also directly impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL (NEPA Indicator #1).

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 indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that substantial adverse impacts to FTHL would result. However, with Implementation of Mitigation Measure B4—the Weed Plan--the Proposed Action's construction-related indirect impacts to FTHL are reduced (NEPA Indicator #1).

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, weed abatement activities, and a security guard within the solar energy facility. These O&M activities will require vehicles to occasionally drive the access road along the transmission line or the access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of the Proposed Action, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads, which may result in direct and indirect impacts to FTHL (NEPA Indicator #1). Implementation of Mitigation Measure B5, which includes a WEAP to instruct employees regarding measures to avoid and minimize measures to sensitive species, and includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts and will reduce the direct O&M impact.

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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within the MA and the southwest corner of the solar energy facility site. However, implementation of Mitigation

Measure B4, specifically the adoption and implementation of a *Raven Control Plan,* which will minimize features that may attract ravens or other predators, reduces this impact (NEPA Indicator #1).

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Proposed Action site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between will reduce this impact (NEPA Indicator #1).

The creosote bush-white burr sage scrub and desert wash habitat along the Proposed Action transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related direct or indirect impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact (NEPA Indicator #1).

*Operations and Maintenance Impact – E*lectrocution

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 are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, an 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. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the ABPP, will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

On April 1, 2011, the project applicant completed ESA section 7 consultation for southwestern willow flycatcher. USFWS issued a concurrence letter stating that the Proposed Action "is not likely to adversely affect" this species.

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests cause by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests (NEPA Indicator #1).

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Proposed Action would not result in direct or indirect impacts due to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat, and because the lights will not be on continuously.

2. Noise

   No equipment or components of the solar energy facility or Proposed Action transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Proposed Action

would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Based on the analysis provided above in Section 4.12.1.1, because migratory birds prefer to use the agricultural fields, east of the proposed transmission line location for breeding and foraging activities, as opposed to using the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP, will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2001 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

On April 1, 2011, USFWS requested BLM to enter into conference pursuant to ESA section 7(a)(4). USFWS based its request on the importance of the Imperial Valley for wintering mountain plover and the potential for mountain plover to occur on the project proposed solar energy facility site based on previous observation.

Construction Impact

Direct Effects:

1. Mortality

Based on the analysis provided above under Section 4.12.1.1, despite the fact that no mountain plovers were observed on the Proposed Action project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase, which is considered a direct impact to this species. Grading of the agricultural fields (where plover would occur) is scheduled to occur before plover arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B7 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to indirectly modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter, which would indirectly impact this species. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to avian species, this impact will be reduced. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be reduced.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over approximately 207,000 acres of suitable foraging habitat that is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a direct or indirect impact to mountain plover's foraging resources in the Imperial Valley. However, Mitigation Measure AR1, as discussed in EIR/EA Section 4.9, which addresses the Proposed Action's impacts with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Proposed Action are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Regular solar module

washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8 and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M activities. Therefore, O&M activities of the Proposed Action would not result in a direct impact to the Mountain Plover.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no direct impact to habitat loss due to O&M is expected to occur, and no mitigation is required.

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility, thereby reducing the area's attractiveness to ravens and other large avian predators.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this indirect impact would be reduced.

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above under Section 4.12.1.1, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.5 acres of Creosote bush-white burr sage scrub, and 7.3 acres of desert wash. Implementation of Mitigation Measure B1, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts (NEPA Indicator #1).

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered a indirect impact to the creosote bush–white burr sage scrub, desert wash, and arrow weed thicket vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources (NEPA Indicator #1). Implementation of Mitigation Measure B2, the Weed Plan, which will reduce the indirect impact to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

Table 4.12-3 above shows the Proposed Action impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be directly or indirectly impacted by the Proposed Action (NEPA Indicator #3).

Construction Impact

No direct or indirect impacts to ACE are anticipated for the solar energy facility, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12 above, the Proposed Action would cause permanent direct impacts to CDFG and RWQCB jurisdictional resources because roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash) could be affected. Implementation of Mitigation Measure B9, which requires compensatory habitat in the specified ratios, will reduce this impact (NEPA Indicator #3).

No direct or indirect impacts to ACE jurisdictional waters are expected to occur due to transmission line construction. Temporary impacts to 0.8 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact by preserving approximately 1.7 acres of appropriate riparian lands as compensation for temporary impacts (NEPA Indicator #3).

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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct or indirect impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the Proposed Action transmission line would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities. Additional measures are detailed in Mitigation Measure B4.

The existing agricultural uses of R-2 (solar energy facility site) limit connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the Proposed Action. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S.–Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, the Proposed Action would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (NEPA Indicator #4).

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.*

Based on the analysis provided above in Section 4.12.1.1, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan.

Because the Proposed Action is consistent applicable biological resource policies, no direct or indirect impacts are anticipated in this issue area, and no mitigation is necessary (NEPA Indicators #5 and 6).

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, the Proposed Action will not conflict with such a plan. No direct or indirect impacts are identified in this issue area, and no mitigation is necessary (NEPA Indicators #5 or 6).

B. Alternative 1-Alternative Transmission Line Corridor

The Alternative 1-Alternative Transmission Line Corridor includes the solar energy facility and access road (R-2, IVS-6, and IVS-8) and transmission corridor portions (IVS-1, IVS-4, and IVS-5).

Impact to Vegetation Communities

Based on the analysis provided above under Section 4.12.1.2, impacts to vegetation communities within the proposed Alternative 1-Alternative Transmission Line Corridor are depicted on Figures 4.12-1a and 4.12-1b above. Table 4.12-4 above identifies the permanent and temporary impacts to vegetation communities.

Solar Energy Facility Site Vegetation Impact

Implementation of the proposed solar energy facility would permanently impact 819.2 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land are not considered direct or indirect impacts. Agricultural lands impacted with the implementation of Alternative 1-Alternative Transmission Line Corridor are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensity grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds. Desert saltbush scrub and arrow weed thicket vegetation serves as a potential nesting site for birds protected under federal and state laws.

The Alternative 1-Alternative Transmission Line Corridor would result in a direct impact to creosote bush-white burr sage scrub, desert saltbush scrub, and arrow weed thicket. Implementation of Mitigation Measure B10 will reduce this impact (NEPA Indicator #2).

Alternative 1-Alternative Transmission Line Corridor Vegetation Impact

The construction of the Alternative 1-Alternative Transmission Line Corridor's transmission line within the larger BLM Utility Corridor would permanently impact 2.6 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash with construction of access roads, monopole footings, and lattice towers associated with the transmission line.

Temporary and direct impacts to creosote bush-white burr sage scrub would result in 6.9 acres with construction of the pullsite, monopole work areas, and trench work. 0.8 acres of desert wash would be temporarily impacted with the proposed construction of the lattice tower sites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in that specific area cannot otherwise be safely conducted. Permanent and temporary direct impacts to creosote bush-white burr sage scrub and desert wash would occur. Implementation of Mitigation Measure B10, which requires the project applicant to place under conservation easement or a similar legal instrument used to protect the land's natural habitat value in perpetuity compensatory mitigation in ratios defined in Table 4.12-13 above.

With implementation of Mitigation Measure B10, the direct impact on the vegetative communities identified above would be reduced. The compensation requirements will offset temporary and permanent impacts to the vegetative communities (NEPA Indicator #2).

Noxious, Invasive and Non-Native Weeds Impact

Based on the analysis provided above under Section 4.12.1.2, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. The implementation of the Weed Plan, detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by the Alternative 1-Alternative Transmission Line Corridor construction or operations phases' introduction or proliferation of invasive and noxious weeds (NEPA Indicator #2).

Impact to Special Status Species

Special Status and Priority Plants

As discussed in Section 4.12.1.2, three priority plant species were observed within the survey area during spring rare plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a above, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Alternative 1-Alternative Transmission Line Corridor's transmission line in the BLM Utility Corridor) falls within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted (NEPA Indicator #1). However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly impacted by the Alternative 1-Alternative Transmission Line Corridor (NEPA Indicator #1).

Sensitive Wildlife

Burrowing Owl

Figure 4.12-2b above depicts the location of burrowing owls on the solar energy facility. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during the focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of 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 direct impact to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification with a substantial adverse effect to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Management Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines, this impact would be reduced (NEPA Indicator #1).

The creosote bush-white burr sage scrub vegetation along the Alternative 1-Alternative Transmission Line Corridor's proposed transmission line and the active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the proposed transmission line and solar energy facility. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B10. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is reduced (NEPA Indicator #1).

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat, will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered. Habitat modification has a direct or indirect impact on burrowing owls (NEPA Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, which will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a direct impact because individuals my come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact (NEPA Indicator #1).

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a direct or indirect impact on burrowing owls. The Alternative 1-Alternative Transmission Line Corridor would not result in a direct or indirect impact due to lighting to the burrowing owl during O&M activities (NEPA Indicator #1).

No equipment or component of the solar energy facility or proposed Alternative 1-Alternative Transmission Line Corridor's transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls (NEPA Indicator #1).

Flat-tailed Horned Lizard

Construction Impact

Direct impacts to FTHL may occur during construction of the Alternative 1–Alternative Transmission Line Corridor proposed solar energy facility and associated transmission line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar energy facility components may result in the direct mortality, injury, or harassment of FTHLs. This is considered a significant impact. Implementation of Mitigation Measures B5 and B11, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL (NEPA Indicator #1).

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* (RMS; ICC 2003; Attachment 1: Figure 6). The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the proposed transmission corridor and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80-100% shrub cover) to provide suitable habitat for FTHL.

In accordance with the RMS, the proposed impacts to the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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 above, Alternative 1-Alternative Transmission Line Corridor may permanently impact up to 3.2 acres and temporarily impact up to 7.7 acres, for a total of 10.9 acres of FTHL habitat within the MA. The loss of FTHL habitat would directly impact the FTHL. As discussed in EIR/EA Section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five Flat-tailed Horned Lizard (FTHL) Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one Management Area is consistent with the conservation objectives of the FTHL RMS. The Alternative 1-Alternative Transmission Line Corridor's impacts to FTHL habitat within the Yuha Desert MA are within the BLM's 1% limit, impacts to 10.1 ac of FTHL habitat (NEPA Indicator #1).

The Alternative 1-Alternative Transmission Line Corridor would directly impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL. Outside of designated access roads for O&M, this habitat will be restored to native desert vegetation after construction (NEPA Indicator #1).

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that impacts to FTHL would result. However, with Implementation of Mitigation Measure B4, the Alternative 1-Alternative Transmission Line Corridor's construction-related indirect impacts to FTHL are reduced (NEPA Indicator #1).

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, 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 the access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads, which is considered a direct and indirect impacts to FTHL (NEPA Indicator #1). Implementation of Mitigation Measures B5, which includes a WEAP to instruct employees regarding measures to avoid and

minimize measures to sensitive species, and B5, which includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts, will reduce the direct O&M impact (NEPA Indicator #1).

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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within the MA and the southwest corner of the solar energy facility site. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a Raven Control Plan, which will minimize features that may attract ravens or other predators, reduces this impact (NEPA Indicator #1).

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 1–Alternative Transmission Line Corridor site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects, such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact (NEPA Indicator #1).

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 1–Alternative Transmission Line Corridor transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related direct and indirect impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact (NEPA Indicator #1).

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's transmission line are designed to prevent avian electrocution with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Alternative 1-Alterantive Transmission Line Corridor's transmission line. 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. APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). Mitigation Measure B7, specifically the ABPP, will provide the applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests caused by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests (NEPA Indicator #1).

Operations and Maintenance Impact

1. Lighting

All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the

Alternative 1-Alternative Transmission Line Corridor would not result in direct or indirect impacts to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously.

2. Noise

No equipment or components of the solar energy facility or Alternative 1-Alternative Transmission Line Corridor's transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Alternative 1-Alternative Transmission Line Corridor would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Based on the analysis provided above in Section 4.12.1.2, because migratory birds prefer to use the agricultural fields east of the proposed transmission line location for breeding and foraging activities, as opposed to using the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2001 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

Construction Impact

Direct Effects:

1. Mortality

Based on the analysis provided above in Section 4.12.1.3, despite the fact that no mountain plover were observed on the Proposed Action project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase, which is considered a direct impact to this species. Grading of the agricultural fields (where plover would occur) is scheduled to occur before plover arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B8 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to indirectly modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter, which is considered a direct impact to this species. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to avian species, this impact will be reduced. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be reduced.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over approximately 207,000 acres of suitable foraging habitat that is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a direct or indirect impact to mountain plover's foraging resources in the Imperial Valley. However, Mitigation Measure AR1, which addresses the Alternative 1-Alternative Transmission Line Corridor's impacts with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Alternative 1-Alternative Transmission Line Corridor are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of

motor vehicles. Regular solar module washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8, and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M activities, O&M activities of the Alternative 2-Reduced Solar Energy Facility Site would not result in a direct impact to the Mountain Plover.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no direct impacts to habitat loss due to O&M is expected to occur, and no mitigation is required.

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility, thereby reducing the area's attractiveness to ravens and other large avian predators.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this indirect impact would be reduced.

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above in Section 4.12.1.2, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.9 acres of Creosote bush-white burr sage scrub, 0.3 acres of arrow weed thicket, and 7.7 acres of desert wash. Implementation of Mitigation Measure B10, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts (NEPA Indicator #1).

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Alternative 1-Alternative Transmission Line Corridor transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered an indirect impact to the creosote bush–white burr sage scrub, arrow weed thicket, and desert wash communities because non-native invasive plants can displace native plants and compete with native plants for resources (NEPA Indicator #1). Implementation of Mitigation Measure B2, the Weed Plan, which will reduce the indirect impact to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

Table 4.12-6 above shows the proposed project impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be directly or indirectly impacted by Alternative 1-Alternative Transmission Line Corridor (NEPA Indicator #3).

Construction Impact

No direct or indirect impacts to ACE are anticipated for the solar energy facility, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12 above, Alternative 1–Alternative Transmission Line Corridor would cause permanents impact to CDFG and RWQCB jurisdictional resources because roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash) would be impacted. Implementation of Mitigation Measure B9, which requires compensatory habitat in the specified ratios, will reduce this impact (NEPA Indicator #3).

No direct or indirect impacts to ACE jurisdictional waters are expected to occur due to transmission line construction. Temporary impacts to 1.7 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact (NEPA Indicator #3).

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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct or indirect impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy,* that require a minimization of habitat disturbance along the Alternative 1-Alternative Transmission Line Corridor's transmission line would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities. Additional measures are detailed in Mitigation Measure B5.

The existing agricultural uses of R-2 (solar energy facility site) limit connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the proposed project. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S.–Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, the Alternative 1-Alternative Transmission Line corridor would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impact wildlife movement or nursery sites (NEPA Indicator #4).

Impact to California Desert Conservation Area

Based on the analysis above in Section 4.12.1.2, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Alternative 1-Alternative Transmission Line Corridor's transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because Alternative 1–Alternative Transmission Line Corridor is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated and no mitigation is necessary (NEPA Indicators #5 and 6).

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of the Alternative 1-Alternative Transmission Line Corridor will not conflict with such a plan. No direct or indirect impacts are identified and no mitigation is necessary (NEPA Indicators #5 and 6).

C. Alternative 2-Reduced Solar Energy Facility Site

The Alternative 2-Reduced Solar Energy Facility Site reflects a reduction in the size of the solar energy facility site within the active agricultural fields to 476.4 acres. The transmission route for the Alternative 2-Reduced Solar Energy Facility Site is similar to the Proposed Action transmission line route and includes IVS-1 and IVS-3.

Impact to Vegetation Communities

Impacts to vegetation communities within the Alternative 2-Reduced Solar Energy Facility site are depicted on Figure 4.12-1a and Figure 4.12-1b. Table 4.12-7 above identifies the permanent and temporary impacts to vegetation communities for Alternative 2-Reduced Solar Energy Facility Site.

Solar Energy Facility Site Vegetation Impact

Based on the analysis provided above in Section 4.12.1.3, implementation of the proposed solar energy facility and associated access road would permanently impact 458.1 acres of active agricultural land, 7.9 acres of disturbed land, 0.1 acre of desert saltbush scrub, 0.3 acre of arrow weed thicket, and 16.8 acres of creosote bush-white burr sage scrub. Impacts to disturbed land would not result in a direct or indirect impact. Agricultural lands impacted with implementation of Alternative 2-Reduced Solar Energy Facility Site are addressed and mitigated in Section 4.9 Agricultural Resources. Based on *A Manual of California,* second edition, by John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evans, 2008 California Native Plant Society and California Department of Fish and Game, CDFG considers creosote bush-white burr sage scrub part of an important habitat alliance that requires identification, monitoring, and management to protect areas of occurrence from degrading influences such as OHV activity and intensity grazing. Desert saltbush scrub and arrow weed thicket vegetation are CDFG-designated sensitive and may serve as a potential nesting site for birds. Implementation of Mitigation Measure B12 will reduce this direct impact (NEPA Indicator #2).

Alternative 2-Reduced Solar Facility Site, Transmission Line (Proposed Action Transmission Line) Vegetation Impact

The construction of the Alternative 2-Reduced Solar Energy Facility Site's transmission line within the larger BLM Utility Corridor would permanently impact 2.2 acres of creosote bush-white burr sage scrub and 0.6 acre of desert wash. Permanent and direct impact occurs where the surface of the ground would be permanently disturbed. Specifically, a permanent and direct impact would occur where new access roads and footings or anchors for tower, monopole, or crossing structures are constructed. Temporary impacts to creosote bush-white burr sage scrub would result in 6.5 acres, and 0.8 acres of desert wash. A temporary impact would occur in areas where construction takes place, but where restoration of the surface is possible including work areas around towers/monopoles and pullsites. Construction within the temporarily impacted areas will minimize impacts to trees and shrubs (i.e. vehicles will take the path of least resistance when moving in and out of work areas), and will only remove or trim trees to allow for vehicles if the work in

that specific area cannot otherwise be safely conducted. Permanent and temporary direct impacts to creosote bush-white burr sage scrub and desert wash would occur. Implementation of Mitigation Measure B12 requires the project applicant to place under conservation easement--or a similar legal instrument used to protect the land's natural habitat value in perpetuity--compensatory mitigation in ratios defined in Table 4.12-15 in this EIR/EA.

With implementation of Mitigation Measure B12, the impact on the vegetative communities identified above would be reduced. The compensation requirements will offset temporary and permanent impacts to the vegetative communities (NEPA Indicator #2).

Noxious, Invasive and Non-Native Weeds

Based on the analysis provided above in Section 4.12.1.3, to minimize the introduction and spread of weed species, a Weed Management Plan will be developed and implemented during Construction and O&M activities. The Weed Management Plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken to prevent the introduction and spread of new weed species as a result of the project. Implementation of the Weed Plan, as detailed in Mitigation Measure B2, will reduce potential direct and indirect impacts to native vegetative communities discussed above, as well as other native plant species, caused by Alternative 2-Reduced Solar Facility Site construction or operations phases' introduction or proliferation of invasive and noxious weeds (NEPA Indicator #2).

Impact to Special Status Species

Special Status and Priority Plants

As discussed above in Section 4.12.1.3, three priority plant species were observed within the survey area during spring rage plant surveys, including Wolf's cholla, Thurber's pilostyles, and Parish's desert thorn.

As depicted on Figure 4.12-2a above, one of the nine Wolf's cholla plants recorded within the biological survey area (central portion of IVS-1 of the Alternative 2-Reduced Solar Energy Facility Site transmission line in the BLM Utility Corridor) is located within the temporary work areas of a lattice tower location. This individual will likely be permanently and directly impacted (NEPA Indicator #1). However, the removal of this one plant is not expected to affect the sustainability of the Wolf's cholla population because other individuals in the surrounding area that will sustain the local population.

Parish's desert thorn and Thurber's pilostyles are not found within the proposed project footprint and would not be directly or indirectly impacted by the Alternative 2-Reduced Solar Energy Facility Site (NEPA Indicator #1).

Sensitive Wildlife

Burrowing Owl

Figure 4.12-2b above depicts the location of burrowing owls on the solar energy facility site. As discussed in the *Focused Burrowing Owl Nesting Season Surveys,* six active burrowing owl burrows were observed during

the focused nesting season surveys within the active agricultural fields along the U.S./Mexico border, four of which are within the project survey area. Although no eggs or juveniles were detected in or around the burrow during the surveys, implementation of Alternative 2-Reduced Solar Energy Facility Site would involve grading the solar energy facility site during construction, including any berms and culverts that may host burrowing owl. This is considered a direct impact to any burrowing owl individuals and/or active burrowing owl burrows because it would constitute direct habitat modification to this BLM and CDFG species of special concern. However, with implementation of Mitigation Measure B3, which requires the project applicant to prepare a Burrowing Owl Management Plan, which will include at a minimum survey, management, and mitigation measures as provided in the 1993 Burrowing Owl Consortium Guidelines, this impact would be reduced (NEPA Indicator #1).

The creosote bush-white burr sage scrub vegetation along the proposed transmission line and the active agricultural fields within the proposed solar energy facility offer suitable habitat for this species. A total of 19 acres of creosote bush-white burr sage scrub will be permanently impacted by the proposed transmission line and solar energy facility. As discussed above, permanent loss of creosote bush-white burr sage scrub vegetation would be mitigated with compensatory land under Mitigation Measure B12. Therefore, direct and indirect impacts to burrowing owls as a result of permanent loss of potentially suitable creosote bush-white burr sage scrub vegetation is reduced (NEPA Indicator #1).

Burrowing owls may burrow in the above-discussed burrows or other locations within or adjacent to the existing agricultural fields. These farm fields, which burrowing owls use as foraging habitat will be permanently impacted by the proposed solar energy facility. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to the foraging habitat within 100 meters (approx 300 feet) of each active burrow would be considered habitat modification that has a direct or indirect impact on burrowing owls (NEPA Indicator #1). Mitigation Measure B3 includes compensation habitat for losses of foraging habitat, which will reduce this impact.

Operations and Maintenance Impact

After construction of the solar energy facility is complete, burrowing owls may occur within the active agricultural fields adjacent to the solar energy facility, including using the perimeter fence as a foraging perch. This is considered a direct impact because individuals may come in direct contact with project components that could kill or injure them. Implementation of Mitigation Measure B4, which specifically sets speed limits along all transmission line access roads and within the solar energy facility and a *Worker Education Program,* will reduce this impact (NEPA Indicator #1).

All permanent lighting within the solar energy facility will be low-profile fixtures that point inward toward the solar energy facility with design features such as directional hoods or shades to reduce light from shining into adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, project-related lighting does not rise to the level of habitat modification that has a direct effect on burrowing owls. The Alternative 2-Reduced Solar Energy Facility Site would not result in a direct or indirect impacts due to lighting to occur to the burrowing owl during O&M activities (NEPA Indicator #1).

No equipment or component of the solar energy facility or proposed transmission line is expected to produce noise that would exceed ambient noise in the vicinity. Thus, project-related noise will not modify the burrowing owl's habitat in a manner that would have a direct or indirect impact on burrowing owls (NEPA Indicator #1).

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. Implementation of Mitigation Measure B5, which incorporates BLM's FTHL RMS and requires biological monitors to conduct pre-construction surveys, monitor construction activities that may harm FTHL, and move FTHL out of harm's way, will reduce the direct construction impact to FTHL (NEPA Indicator #1).

The proposed transmission corridor is within the Yuha Desert Flat-tailed Horned Lizard Management Area, as designated in the 2003 *Flat-tailed Horned Lizard Rangewide Management Strategy* (RMS; ICC 2003; Attachment 1: Figure 6). The creosote bush–white burr sage scrub vegetation within and adjacent to the Management Area, including the proposed transmission corridor and the southwestern corner of the solar energy facility (IVS-6), provides habitat for this species.

The arrow weed thicket and desert saltbush scrub vegetation within the IVS-8 corridor, although within the Yuha MA, are too dense (80 to 100% shrub cover) to provide habitat for FTHL.

In accordance with the RMS, the proposed impacts to the MA are the minimum required to construct the project.

- The solar energy facility site is located outside of the Yuha MA, primarily within active agricultural fields.
- The majority of the transmission line towers (all of IVS-1) will be located adjacent to existing towers and will use the existing primary access road for installation as well as O&M; small spur roads will extend from the adjacent existing tower 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 disruptive 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 above, the Alternative 2-Reduced Solar Energy Facility Site, for electrical transmission may permanently impact up to 2.8 acres and temporarily impact up to 7.3 acres, for a total of 10.1 acres of FTHL habitat within the MA. The loss of FTHL habitat would directly impact the FTHL. As

discussed in EIR/EA Section 3.2, the FTHL RMS provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards, a BLM sensitive species, in each of the five FTHL Management Areas within the CDCA in perpetuity. The BLM has determined that a maximum cumulative disturbance to 1% of the total land area in any one Management Area is consistent with the conservation objectives of the FTHL RMS. The Alternative 2-Reduced Solar Energy Facility's impacts to FTHL habitat within the Yuha Desert MA are within the BLM's 1% limit, impacts to 10.1 ac of FTHL habitat (NEPA Indicator #1).

The Alternative 2-Reduced Solar Energy Facility Site would directly impact 16.8 acres of creosote bush-white burr sage scrub vegetation outside of the MA that may provide suitable habitat for FTHL. Outside of designated access roads for O&M, this habitat will be restored to native desert vegetation after construction. Therefore, this impact to FTHL habitat would not directly or indirectly impact the FTHL (NEPA Indicator #1).

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered an indirect impact if the FTHL vegetation community was overtaken by exotic plant species to such an extent that impacts to FTHL would result. However, with Implementation of Mitigation Measure B4, the Alternative 2-Reduced Solar Energy Facility's construction-related indirect impacts to FTHL are reduced (NEPA Indicator #1).

Operations and Maintenance Impact

General O&M activities that may be conducted within FTHL habitat (along the transmission line and within the southwest corner of the solar energy facility site) include equipment inspection and/or repairs, solar panel or transmission tower cleaning, weed abatement activities, and a security guard within the solar energy facility site. These O&M activities will require vehicles to occasionally drive the access roads along the transmission line or access road within the suitable FTHL habitat in the southwestern corner of the solar energy facility site. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the southwest corner of the solar energy facility site, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads, which is considered a direct and indirect impacts to FTHL (NEPA Indicator #1). Implementation of Mitigation Measures B5, which includes a WEAP to instruct employees regarding measures to avoid and minimize measures to sensitive species, and includes an O&M component that includes an adaptive management component for conservation measures to avoid and minimize direct impacts, will reduce the direct O&M impact.

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. While the majority of the solar energy facility does not provide habitat for FTHL, it is immediately adjacent to the MA and the avian predators drawn to the solar energy facility may also forage within the nearby FTHL habitat. This increase in avian predators may indirectly impact FTHL within

the MA and the southwest corner of the solar energy facility site. However, implementation of Mitigation Measure B4, specifically the adoption and implementation of a Raven Control Plan, which will minimize features that may attract ravens or other predators, reduces this impact (NEPA Indicator #1).

Nesting Raptors

Construction Impact

The existing transmission towers and a few tall trees within the survey area provide nesting opportunities for raptors. Raptors and active raptor nests are protected under California Fish and Game Code §§ 3503.5, 3503, and 3513. In order to prevent noise impacts to nesting raptors such as the red-tailed hawk, initial grading and construction within the Alternative 2-Reduced Solar Energy Facility site is scheduled to take place outside the raptors' breeding season of February 1 to July 15. However, if construction occurs during the breeding season, noise impacts could result in effects such as causing a nesting bird to abandon a nest with young or fail to nest in otherwise suitable conditions, would constitute a an indirect impact. Implementation of Mitigation Measure B6, which requires pre-construction clearance surveys for nesting raptors for construction activities that take place during the breeding season and 500-ft buffers between nests and work activity will reduce this impact (NEPA Indicator #1).

The creosote bush-white burr sage scrub and desert wash habitat along the Alternative 2-Reduced Solar Energy Facility Site transmission line may provide foraging habitat for a variety of raptors, including the red-tailed hawk. Construction-related direct and indirect impacts to this foraging habitat may occur by virtue of raptors being stressed or disturbed by the construction activities and the presence of humans and construction equipment. Implementation of Mitigation Measure B6, which includes pre-construction clearance surveys and presence of a biological monitor onsite during construction activities, will reduce this impact (NEPA Indicator #1).

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 are designed to prevent avian electrocution, with a top-most arm structure above the conductors that may hold grounding wires or other insulated utility lines. In addition, each phase's insulators, attached to the conductors at each arm of the towers/monopoles, are spaced at least 30 feet apart. This is far enough apart that North American raptors' wingspans cannot reach two insulators at once.

No direct impact to raptors is expected to occur due to electrocution along the Proposed Action transmission line. However, in order to address any potential avian mortality that may occur during

operations and maintenance activities along the transmission line, an 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. Mitigation Measure B7, specifically the *ABPP,* will provide the applicant the vehicle to comply with MBTA.

Migratory Birds

Migratory bird species include special status species that may nest on-site such as western least bittern, loggerhead shrike, Crissal thrasher, and yellow-headed blackbird. Migratory bird species also include special status species that may forage during spring and fall migration or overwinter in the Imperial Valley such as long-billed curlew, greater sandhill crane, willow flycatcher, and yellow warbler. "Take" of a migratory bird species, which includes unintentionally killing adult birds or destroying active nests, would be considered a violation of the MBTA. An ABPP, subject to the approval of USFWS, would be adopted that would include avoidance and minimization measures to address potential construction and operations phase impacts (see Mitigation Measure B7).

Construction Impact

If construction occurs between February 1 and September 15, a composite breeding season for most migratory bird species, a direct significant impact may occur by virtue of disturbances to vegetation used by migrating birds, and disturbances to nests cause by construction noise and the presence of humans and construction equipment. As part of Mitigation Measure B7, the project proponent would implement an ABPP. The ABPP would, among other things, minimize disturbances to vegetation to the maximum possible extent and avoid direct impacts to any active migratory bird nests (NEPA Indicator #1).

Operations and Maintenance Impact

1. Lighting

   All permanent lighting within the solar energy facility would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, the Alternative 2-Reduced Solar Energy Facility Site would not result in direct or indirect impacts to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously.

2. Noise

   No equipment or components of the solar energy facility or the Alternative 2-Reduced Solar Energy Facility Site transmission line are anticipated to produce noise that would exceed ambient noise in the vicinity. The Alternative 2-Reduced Solar Energy Facility Site would not result in a direct or indirect impact due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

3. Collision

Based on the analysis provided above in Section 4.12.1.3, because migratory birds prefer to use the agricultural fields east of the proposed transmission line location for breeding and foraging activities the agricultural fields as opposed to the creosote bush–white burr sage scrub vegetation in which the transmission line would be situated, the project design avoids much of the avian migratory traffic. However, in order to address any potential avian mortality that may occur during operations and maintenance activities along the transmission line, Mitigation Measure B7, specifically the ABPP, will include a wildlife mortality reporting program. Mitigation Measure B7 will also incorporate adaptive management principles that will allow the project operator to monitor the effectiveness of collision reduction measures and modify them, as appropriate, to respond to new information and monitoring data to increase effectiveness.

Mountain Plover

Based on a recent USFWS protocol survey conducted by RECON on the project site from January 29, 2011 to February 8, 2011, approximately 461 acres of the agricultural fields within the project site met the suitability criteria for foraging mountain plovers, approximately 200 acres of which were freshly burned during the mountain plover survey. However, no mountain plovers were observed or detected during the surveys.

Construction Impact

Direct Effects:

1. Mortality

Based on the analysis provided above in Section 4.12.1.3, despite the fact that no mountain plovers were observed on the Alternative 2-Reduced Solar Energy Facility Site's project site and the species' evasiveness, mountain plovers could still be injured or killed during project construction phase, which is considered a direct impact to this species. Grading of the agricultural fields (where plover would occur) is scheduled to occur before mountain plovers arrive in the Imperial Valley, approximately mid-November to mid-December. However, if the agricultural fields are not graded by that time, and mountain plover may occur in the proposed solar energy facility site, Mitigation Measure B7 reduces these harms, through pre-construction surveys and onsite biological monitors during clearing activities.

2. Disturbance

Light and noise from heavy equipment during construction is not expected to indirectly modify the behavioral patterns of foraging mountain plover. Work will be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar energy facility site in order to minimize effects to mountain plover that may be resting in adjacent fields. However, mountain plover is a diurnal species and is not expected to be active at night. Noise from construction of the solar energy facility site may exceed 60 dB(A) for a distance of up to 1,280 feet outside of the solar energy facility site perimeter, which would indirectly impact this species. However, with the implementation of Mitigation Measure B8, which will include, pursuant to the ABPP, minimization and avoidance measures to reduce potential noise effects to

avian species, this impact will be reduced. Because the mountain plover is relatively tolerant of disturbance on its wintering grounds, the brief amounts of time plovers may forage within any given field within the vicinity of the project area, and the implementation of Mitigation Measure B8, disturbance to mountain plover from noise and lighting would be reduced.

3. Habitat Loss

During construction activities, an estimated loss of approximately 460 acres of foraging habitat (an estimated half of active agriculture is expected to support mountain plover foraging habitat within a single wintering season) for the mountain plover will occur; however, this loss will be buffered by over approximately 207,000 acres of suitable foraging habitat is expected to remain within the Imperial Valley agricultural complex (50 percent of the 415,365 acres of field crops available) over the 25-year project term. The 460 acres of temporary habitat loss is approximately 0.2 percent of the overall 207,000 acres estimated to be available at any given time for foraging within the Imperial Valley. A 0.2 percent loss of potentially suitable foraging habitat is within the amount of annual change in potential plover foraging habitat in the Imperial Valley. For all of these reasons, this modification in the plover's habitat is not expected result in a direct or indirect impact to mountain plover's foraging resources in the Imperial Valley. However, Mitigation Measure AR1, which addresses the impacts of Alternative 2-Reduced Solar Energy Facility with respect to conversion of agricultural lands to non-agricultural uses are expected to alleviate any potential impacts to plover as a result of loss of foraging habitat by providing resources to replace loss foraging habitat or to restore the farm fields to agriculture upon project completion.

Operations and Maintenance Impact

Direct Effects:

1. Disturbance

The O&M activities of the Alternative 2-Reduced Solar Energy Facility Site are unlikely to affect mountain plovers that may be foraging in the solar energy facility site during the winter. Similar to the construction activities discussed above, any noise and lighting during operations will be minimal and directed toward the interior of the solar energy facility site, where the operations facilities are located. General O&M activities that may be conducted within the solar energy facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Regular solar module washing (six times a year for concentrating PV [CPV] and one to two times a year for PV) requires water truck access on designated access roads between the panels (or CPV trackers) and a high-powered sprayer or hose. As the mountain plovers will not be nesting in the fields, they will be able to readily move out of harm's way, and although their foraging activities may be very temporarily disrupted, these O&M activities are not expected to affect the overall behavioral patterns of mountain plovers within the action area. In addition, because the mountain plover is only active during daylight hours, no collisions within the proposed transmission lines, solar panels, or other facility structures are anticipated, as they will be visible; and, therefore avoidable, when mountain plover will be actively moving in and around the vicinity. In addition, with the implementation of Mitigation Measure B8, and tactics such as the 15 mile per hour speed limit and approaches for reducing the noise and lighting impacts of the O&M

activities, O&M activities of the Alternative 2-Reduced Solar Energy Facility Site would not result in a direct impact to the Mountain Plover.

2. Habitat Loss

No permanent loss of foraging habitat for the mountain plover is anticipated. After construction activities, the existing Bermuda grass to the east of the canal will be allowed to re-sprout within the solar energy facility site, underneath and surrounding the solar panels. The Bermuda grass will then be maintained as needed in order to maintain a vegetation height under 8 inches; this will provide foraging habitat for wintering mountain plover, and maintain vegetative cover for dust control underneath the panels. To the west of the canal, grasses such as salt grass or purple three awn may be seeded and maintained in a similar fashion to the Bermuda grass in order to provide suitable foraging habitat for mountain plover and meet dust control requirements for the Imperial Valley. In addition, these species are native and would not introduce new invasive exotic plants into the adjacent native desert. Therefore, no direct impact to habitat loss due to O&M is expected to occur, and no mitigation is required.

Indirect Effects:

Large avian predators such as ravens, loggerhead shrikes, and prairie falcon may be drawn to the solar energy facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect mountain plover within and adjacent to the solar energy facility site, but this effect would be minimized by implementation of the Raven Control Plan as discussed in Mitigation Measure B8. The Raven Control Plan will contain measures for avoiding the introduction water and food sources in the area surrounding the solar energy facility site, thereby reducing the area's attractiveness to ravens and other large avian predators.

No indirect effects to the mountain plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed project's Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources, including birds. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February. With the implementation of Mitigation Measure B8, this indirect impact would be reduced.

Impact to Riparian Habitat or Sensitive Natural Communities

Construction Impact

Based on the analysis provided above in Section 4.12.1.3, the proposed impacts to creosote bush-white burr sage scrub, desert wash, and arrow weed thicket vegetation are considered a direct impact and would require mitigation to offset these impacts to sensitive habitats. Construction activities are expected to affect roughly 6.5 acres of Creosote bush-white burr sage scrub, 0.3 acres of arrow weed thicket, and 7.3 acres of desert wash. Implementation of Mitigation Measure B12, which includes compensatory habitat lands at the specified ratios, will reduce the construction impacts (NEPA Indicator #1).

Operations and Management Impact

Soil disturbed due to grading during construction and continued use of the access roads along the Proposed Action transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. An increase in non-native invasive plants would be considered an indirect impact to the creosote bush–white burr sage scrub, desert wash, and arrow weed thicket vegetation communities because non-native invasive plants can displace native plants and compete with native plants for resources (NEPA Indicator #1). Implementation of Mitigation Measure B2, the Weed Plan, which will reduce the indirect impact of the Alternative 2-Reduced Solar Energy Facility to these natural communities by, among other things, limiting disturbances to native species, washing and inspecting vehicles, using certified weed-free mulch, straw, hay, and seeds, and monitoring and controlling weed spread.

Impact to Jurisdictional Waters

Table 4.12-9 above shows the Alternative 2-Reduced Solar Energy Facility Site's impacts to CDFG jurisdictional resources along the transmission line and within the solar energy facility site. No ACE jurisdictional resources are expected to be directly or indirectly impacted by the Alternative 2-Reduced Solar Energy Facility Site (NEPA Indicator #3).

Construction Impact

No direct or indirect impacts to ACE are anticipated at the solar energy facility site, as the irrigation channels within the active agricultural fields are man-made structures and are likely to be considered exempt from the jurisdiction of the resources agencies. A determination of jurisdiction on the farm drains is currently under review by the ACE. As shown in Table 4.12-12 above, Alternative 2-Reduced Solar Energy Facility Site would cause permanent impacts to CDFG and RWQCB jurisdictional resources. Roughly 0.9 acres (0.3 acres of arrow weed thicket and 0.6 acres of desert wash would be impacted. Implementation of Mitigation Measure B9 will reduce this impact (NEPA Indicator #3).

No direct or indirect impacts to ACE jurisdictional waters are expected to occur due to transmission line construction. Temporary impacts to 1.7 acres of land to CDFG and RWQCB jurisdictional resources may occur within Pinto Wash located in IVS-1 from construction of the transmission line. Implementation of Mitigation Measure B9 will reduce this impact (NEPA Indicator #3).

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 because the substrate under the panels will remain sandy and permeable, allowing water to be absorbed into the soil. No direct or indirect impact to jurisdictional resources due to O&M is expected to occur.

Impact to Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. Mitigation measures found in the *Flat-tailed Horned Lizard Rangewide Management Strategy* that require a minimization of habitat disturbance along the Proposed Action Transmission Line would ensure the continued ability of wildlife to move freely through the project area. These measures include use of existing roads, minimization of habitat disturbance, a Worker Environmental Awareness Program (WEAP) for all crew and personnel, and speed limits during construction and O&M activities Additional measures are detailed in Mitigation Measure B5.

The existing agricultural uses of R-2 (solar energy facility site) limit connectivity for terrestrial species based on its continued disturbance from cultivation practices. Under the proposed use, the current mechanized disturbance would decrease once the solar panels are in place, and the solar energy facility site would be fenced with chain-link security fencing. The Project's ABPP will also ensure that movement and corridor uses to avian species will be minimized by the proposed project. Although the solar energy facility site will be fenced, the roads crossing over the canal and along the U.S.–Mexico border will remain and continue to provide access for terrestrial wildlife species to move along the canal, between the agricultural fields to the north and east, and the desert to the west.

For these reasons, the Alternative 2-Reduced Solar Energy Facility Site would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (NEPA Indicator #4).

Impact to California Desert Conservation Area

Based on the analysis above in Section 4.12.1.3, the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. The Proposed Action transmission line is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated Utility Corridor "N." Proposed impacts to resources conform to the CDCA and maintain the integrity and intent of the Conservation Plan. Because Alternative 2-Reduced Solar Energy Facility Site is consistent with applicable biological resource policies, no direct or indirect impacts are anticipated and no mitigation is necessary (NEPA Indicators #5 and #6).

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan in place. Accordingly, implementation of the Alternative 2-Reduced Solar Energy Facility Site will not conflict with such a plan. No direct or indirect impacts are identified, and no mitigation is necessary (NEPA Indicator #5 and #6).

D. Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no impacts on biological resources from the Alternative 3-No Action/No Project Alternative.

4.12.3 Mitigation Measures and Residual Impacts

4.12.3.1 Proposed Action Mitigation Measures

B1 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert saltbush scrub, arrow weed thicket, and desert wash shall be accomplished through required mitigation acres. Table 4.12-10 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

TABLE 4.12-10
Proposed Action Vegetation Community Mitigation

Vegetation Communities/ Land Cover Types	Proposed Action Impact (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
PERMANENT IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Solar energy facility	16.8	N/A**	--
Access roads	2.2	6:1	13.2
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.3
CBS Sub-total	*19.0*	--	*13.5*
Desert Saltbush Scrub (DSS)	0.1	1:1	0.1
Desert Wash (DW)			
Access roads	0.6	6:1	3.6
Lattice tower footings	<0.1	6:1	0.1
DW Sub-total	*0.6*	--	*3.7*
Arrow Weed Thicket (AT)	0.3	1:1	0.3
Active Agriculture (AG)	819.2	N/A	--
Disturbed land (DL)	7.9	N/A	--
Permanent Total	847.1		17.2
TEMPORARY IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Pullsite	0.8	6:1	4.8
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	4.0	6:1	24.0
Trench	<0.1	6:1	<0.1
CBS Sub-total	*6.5*	--	*39.0*
Desert Wash (DW)			
Lattice tower sites	0.8	6:1	4.8
DW Sub-total	*0.8*	--	*4.8*
Temporary Total	7.3	--	43.8
TOTAL MITIGATION	--	--	61.0

Note: *Includes A-frames.
**No mitigation is required due to proposed habitat restoration underneath and surrounding the solar panels.
Source: RECON Environmental Inc., 2010.

B2 Noxious, Invasive and Non-Native Weeds

To minimize the introduction and spread of weed species a Weed Management Plan will be developed and implemented. The weed management plan will include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken during construction and O&M activities to prevent the introduction and spread of new weed species as a result of the project.

General measures to prevent the spread of weeds include:

- Limiting disturbance areas during construction to the minimal required to perform work and limiting ingress and egress to defined routes
- Maintaining vehicle wash and inspection stations, and closely monitoring the types of materials brought onto the site to minimize the potential for weed introduction
- Use of certified weed free mulch, straw wattles, hay bales and seed mixes
- Reestablishing native vegetation along the transmission line and within the southwestern corner of the solar energy facility site as quickly as practicable on disturbed sites is the most effective long-term strategy to avoid weed invasions
- Monitoring and rapid implementation of control measures to ensure early detection and eradication for need weed invasions

Weed control methods that may be used include both physical and chemical control. Physical control methods include manual hand pulling of weeds, or the use of hand and power tools to uproot, girdle, or cut plants. Herbicide applications are a widely used, effective control method for removing infestations of invasive weed species. However, inadvertent application of herbicide to adjacent native plants must be avoided, which can often be challenging when weeds are interspersed with native cover. Before applying herbicide, contractors will be required to obtain any required permits from state and local authorities. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and federal agency for use on public lands will be used within or adjacent to the project site.

Invasive plants species on BLM lands would be prevented, controlled, and treated through an Integrated Pest Management approach per the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER 2007).*

A *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS) was released to the public on June 29, 2007. The Record of Decision (ROD) for the PEIS includes standard operating procedures (SOPs) for applying herbicides (summarized in Appendix B, Table B-2 pages B-9 to B-14 of the ROD) and mitigation measures (summarized in Table 2, pages 2-4 to 2-6 of the ROD) that

were adopted to ensure that all practicable means to avoid or minimize environmental harm is implemented in these vegetation treatment projects. The Human Health Risk Assessment (PEIS, Appendix B) and Ecological Risk Assessment (PEIS, Appendix C) include an analysis of impacts to resources and human health. This EA tiers to the both the human health and ecological risk assessments, the resource analyses related to the SOPs, and resource analyses related to the mitigation measures in the PEIS.

Only herbicides approved by BLM in California will be used on BLM lands. Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP).

B3 Burrowing Owl

Burrowing owls have been observed in the active 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 impacts to any breeding burrowing owls. If construction is to begin during the breeding season, the following measures will be implemented prior to February 1 to discourage the nesting of the burrowing owls within the area of impact. As construction continues, any area where owls are sighted would be subject to frequent surveys by the Designated Biologist or Biological Monitor for burrows before the breeding season begins, so that owls can be properly relocated before nesting occurs.

2) Within 30-days prior to initiation of construction, pre-construction clearance surveys for this species shall be conducted by qualified and agency-approved biologists 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 shall be clearly demarcated in the field by the project engineers and Designated Biologist prior to the commencement of the pre-construction clearance survey. The surveys shall 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 shall be implemented. Passive relocation methods are to be used by the biological monitors 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 2:1 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 energy facility site, 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 project construction schedule and details are finalized, an approved biologist shall prepare a BUOW Mitigation and Monitoring Plan that will detail the approved, site-specific methodology proposed to minimize and mitigate impacts to this species. Passive relocation, destruction of burrows, and construction of artificial burrows can only be completed upon prior approval by and in cooperation with the 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 project impacts to four active burrows, a minimum of 26 acres would be permanently protected to offset this loss. This mitigation would be implemented locally to provide at least 26 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.

B4 General O&M Mitigation Measures

A number of general mitigation measures, designed to reduce potential direct and indirect impacts to resources in the project area will be implemented after construction as standard Operation and Maintenance protocols. In order to reduce the potential impact to biological resources during operations and maintenance, the following will 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 will not exceed 15 miles per hour. Transmission access for O&M activities shall be kept to the minimum necessary for operations and be accomplished during the winter months when feasible. This limited access and annual timing is designed to prevent FTHL mortality.
  - Annual formal Worker Education Training shall 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. All employees will be familiar with this plan and littering will not be tolerated. This plan will be approved by the BLM and CDFG.
- 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.

B5 Flat-tailed Horned Lizard

Mitigation 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 the Designated Biologist[1] (i.e. field contact representative) along with approved Biological Monitors as needed for construction, particularly within the Yuha MA. The 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 organize and oversee the work of the biological monitors and have the authority and responsibility to halt activities that are in violation of the conservation measures. An organizational chart shall be provided to BLM prior to ground-disturbing activities with a clear chain of command and contact information (cell phones). 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. Where feasible, the areas shall be cleared of FTHL and fenced (according to the Strategy) to exclude FTHL from re-entering these construction areas, particularly in the MA and other high-use areas such as for staging of equipment or parking areas. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor, such as the agricultural fields rather than native desert. 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 and cleared 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,

[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.

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, 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, CDFG, and Service. The HRP must be approved in writing by the aforementioned agencies within 60 days 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

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 creosote bush-white burr sage scrub vegetation in the southwestern corner of 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, USFWS, CDFG, and the FTHL Interagency Coordinating Committee (ICC) via the BLM an annual Project FTHL Status Report, which will include, at a minimum:
   - A general description of the status of the project site within the MA.
   - 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.
    - O&M activities including the washing of solar panels, weed abatement, or any other O&M activity that may result in ground disturbance 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 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 Designated Biologist or qualified FTHL monitor.

Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation would be required for impacts to FTHL habitat, as shown in Table 4.12-11.

TABLE 4.12-11
Proposed Action Mitigation Requirements for Flat-tailed Horned Lizard Habitat

FTHL Habitat	Proposed Action Impact (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	2.8	6:1	16.8
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.4
Total Permanent	2.8	--	17.2
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	0.8	6:1	4.8
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	4.8	6:1	28.8
Trench	<0.1	6:1	<0.1
Inside Sub-total	*7.3*	--	*43.8*
Total Temporary	7.3	--	43.8
TOTAL MITIGATION REQUIRED	--	--	61.0

Source: RECON Environmental Inc., 2010.

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 permanent impact to this habitat within the MA will be at a 6:1 ratio.

No mitigation for FTHL is required for the active agricultural land within the proposed solar energy facility, as it does not provide habitat for this species.

B6 Nesting Raptors

Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures should be implemented:

- Initial grading and construction within the Proposed Action site should take place outside the raptors' breeding season of February 1 to July 15.
- If construction occurs between February 1 and July 15, an approved 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 an approved biologist determines that the fledglings are independent of the nest.

Mitigation for impacts to potential raptor foraging habitat would be conducted in concert with the purchase/acquisition of mitigation for FTHL habitat as detailed in Mitigation Measure B4. As the 6:1 mitigation ratio for FTHL habitat well exceeds the amount required for impacts to raptor foraging habitat, it is not anticipated that additional mitigation would be necessary.

Operations and Maintenance Impact Mitigation

Mitigation for potential impact to raptors and other avian species due to collision with the proposed transmission lines is discussed below in Mitigation Measure B6 (Mitigation for Migratory Birds and Other Sensitive Non-migratory Bird Species) , including the development of an ABPP.

B7 Migratory Birds and Other Sensitive Non-migratory Bird Species

In order to reduce the potential indirect impact to migratory birds, bats and raptors, an 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 Conservation 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, an approved 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 of the Wildlife Mortality Reporting Program

B8 Mountain Plover

The following mitigation measures are designed to avoid and minimize direct and indirect harm or injury of federally listed and proposed listed mountain plover and their habitat, and to compensate for unavoidable direct and indirect effects resulting from project construction and operations and maintenance (O&M):

1. Speed limits along all transmission access roads and within the solar energy facility site should not exceed 15 miles per hour during construction and O&M. Transmission access for O&M activities shall be kept to the minimum necessary for operations. This limited access is designed to prevent wildlife mortality.
2. An Avian and Bat Protection Plan (ABPP) will be prepared and approved by BLM and USFWS, prior to groundbreaking activities, which will outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations. The conservation measures in the ABPP will include:
   - Minimizing disturbance to vegetation to the 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 Avian Power Line Interaction Committee design guidelines for overhead utilities (2006) by incorporating recommended or other methods that enhance the visibility of the lines to avian species.
   - Preparation of a Raven Control Plan that avoids introducing water and food resources in the area surrounding the solar energy facility.
   - Minimize noise.

- Minimize use of outdoor lighting.
- Implement post-construction avian monitoring that will incorporate a Wildlife Mortality Reporting Program.

3. A Wildlife Mortality Reporting Program will be prepared and approved by BLM prior to groundbreaking activities, and implemented during O&M of the solar facility. This plan calls for identification and reporting of any dead or injured animals observed by personnel conducting O&M activities within the solar energy facility site and along the transmission line. An appropriate reporting format for dead or injured wildlife observed within the solar energy facility site 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/).

4. Prior to ground-disturbing activities, an individual shall be designated and approved by the USFWS and BLM as a Designated Biologist* (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. Biological Monitor(s) will assist the Designated Biologist in conducting pre-construction surveys and monitoring mobilization, ground disturbance, grading, construction, operation, closure, and restoration activities.

   * A qualified Designated Biologist must have (1) a Bachelor's degree with an emphasis in ecology, natural resource management, or related science; (2) 3 years of experience in field biology or a 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) an appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.

5. Prior to project initiation, a Worker Education 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 mountain plover.
   - Protection measures designed to reduce potential impacts to the species.
   - Function of flagging designating authorized work areas.
   - Reporting procedures to be used if a mountain plover is encountered in the field.
   - Driving procedures and techniques for commuting and driving on to the project site to prevent mortality of all wildlife species on roads.

6. In the event that continuing agricultural practices on the solar energy facility site are impractical after installation of the solar panels, the vegetation underneath the panels will be maintained as a short grass habitat that could support foraging activities for mountain plover. The timing and formula of any herbicide used for control of weeds will be in accordance with the proposed

project's Weed Management Plan, which conforms to resource agency guidelines and standards designed to minimize impacts to sensitive biological resources. Specifically, herbicides should be applied to any agricultural fields outside of the mountain plover over-wintering season of November through February.

B9 Jurisdictional Waters

The Proposed Action will permanently impact 0.9 acre, and temporarily impact 0.8 acre of CDFG riparian habitat. No impacts to ACE jurisdictional resources are anticipated.

As shown in Table 4.12-12, mitigation for the 0.9 acre of permanent impacts to CDFG riparian habitat is typically at a 2:1, while mitigation for the 1.7 acres of temporary impacts to CDFG riparian habitat is typically at a 1:1 ratio; totaling 3.5 acres of required mitigation.

Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B4 above. 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 as riparian habitat mitigation. A Section 1600 Streambed Alteration Agreement would also need to be authorized for impact to CDFG resources.

Table 4.12-12
Proposed Action Jurisdictional Resources Mitigation

Jurisdictional Resources	Proposed Action Transmission Line Impact (acres)	Mitigation Ratio	Proposed Action Mitigation Required (acres)
PERMANENT IMPACTS			
CDFG-Riparian			
Access roads	0.9	2:1	1.8
Lattice tower footings*	<0.1	2:1	<0.1
Permanent Total	*0.9*	--	*1.8*
TEMPORARY IMPACTS			
CDFG-Riparian			
Lattice tower work areas*	1.7	1:1	1.7
Temporary Total	*1.7*	--	*1.7*
TOTAL MITIGATION	--	--	*3.5*

Source: RECON Environmental Inc., 2010.

4.12.3.2 Alternative 1-Alternative Transmission Line Corridor Mitigation Measures

Avoidance and Minimization Mitigation Measures B2 through B9 identified above in Section 4.12.3.1 for the Proposed Action will also be implemented for the Alternative 1-Alternative Transmission Line Corridor, if this alternative were to be selected. Compensation requirements for Alternative 1-Alternative Transmission Line

Corridor Jurisdictional Resources are the same requirements for the Proposed Action and are discussed in Section 4.12.3.1 above.

Compensation for impacts to vegetation communities and FTHL habitat for this alternative differ from the Proposed Action and are discussed in Mitigation Measures B10 and B11 below.

B10 Vegetation Communities

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

B11 Flat-tailed Horned Lizard Habitat Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation would be required for impacts to FTHL habitat, as shown in Table 4.12-14.

4.12.3.3 Alternative 2-Reduced Solar Energy Facility Site Mitigation Measures

Avoidance and Minimization Mitigation Measures B2 through B9 identified above in Section 4.12.3.1 for the Proposed Action will also be implemented for the Alternative 2-Reduced Solar Energy Facility Site, if this alternative were to be selected. Compensation requirements for Alternative 2-Reduced Solar Energy Facility Site Jurisdictional Resources are the same requirements for the Proposed Action and are discussed in Section 4.12.3.1 above.

Alternative 2-Reduced Solar Energy Facility Site compensation requirements for impacts to vegetation communities and FTHL habitat for this alternative differ from the Proposed Action and are discussed in Mitigation Measures B12 and B13 below.

B12 Vegetation Communities

Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert saltbush scrub, arrow weed thicket, and desert wash shall be accomplished through required mitigation acres. Table 4.12-15 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.

B13 Flat-tailed Horned Lizard Habitat Compensation

In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for the Alternative 2-Reduced Solar Energy Facility Site would be required for impacts to FTHL habitat, as shown in Table 4.12-16.

4.12.3.4 Alternative 3-No Action/No Project Alternative Mitigation Measures

No mitigation is proposed under the Alternative 3-No Action/No Project Alternative, as no biological resources impacts under CEQA and NEPA would occur.

TABLE 4.12-13
Alternative 1-Alternative Transmission Line Corridor Vegetation Community Mitigation

Vegetation Communities/ Land Cover Types	Alternative 1-Alternative Transmission Line Corridor Impact (acres)	Mitigation Ratio	Alternative 1-Alternative Transmission Line Corridor Mitigation Required (acres)
PERMANENT IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Solar energy facility	16.8	N/A**	--
Access roads	2.6	6:1	15.6
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.3
CBS Sub-total	*19.4*		*15.9*
Desert Saltbush Scrub (DSS)	0.1	1:1	0.1
Desert Wash (DW)			
Access roads	0.6	6:1	3.6
Lattice tower footings	<0.1	6:1	0.1
DW Sub-total	*0.6*		*3.7*
Arrow Weed Thicket (AT)	0.3	1:1	0.3
Active Agriculture (AG)	819.2	N/A	-
Disturbed land (DL)	7.9	N/A	-
Permanent Total	847.5		19.6
TEMPORARY IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Pullsite	1.0	6:1	6.0
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	4.2	6:1	25.2
Trench	<0.1	6:1	<0.1
CBS Sub-total	*6.9*	--	*41.4*
Desert Wash (DW)			
Lattice tower sites	0.8	6:1	4.8
DW Sub-total	*0.8*	--	*4.8*
Temporary Total	7.7	--	46.2
TOTAL MITIGATION	--	--	65.8

*Includes A-frames.
**No mitigation is required due to proposed project habitat restoration under and surrounding the solar panels.
Source: RECON Environmental Inc., 2010.

TABLE 4.12-14
Alternative 1-Alternative Transmission Line Corridor Mitigation Requirements for Flat-tailed Horned Lizard Habitat

FTHL Habitat	Alternative 1-Alternative Transmission Line Corridor Impact (acres)	Mitigation Ratio	Alternative 1-Alternative Transmission Line Corridor Mitigation Required (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	3.2	6:1	19.2
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.4
Total Permanent	3.2	--	19.6
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	1.0	6:1	6.0
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	5.0	6:1	30.0
Trench	<0.1	6:1	<0.1
Inside Sub-total	*7.7*	--	*46.2*
Total Temporary	7.7	--	46.2
TOTAL MITIGATION REQUIRED			65.8

Source: RECON Environmental Inc., 2010.

TABLE 4.12-15
Alternative 2-Reduced Solar Energy Facility Site Vegetation Community Mitigation

Vegetation Communities/ Land Cover Types	Alternative 2-Reduced Solar Energy Facility Site Impact (acres)	Mitigation Ratio	Alternative 2-Reduced Solar Energy Facility Site Mitigation Required (acres)
PERMANENT IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Solar energy facility	16.8	N/A**	--
Access roads	2.2	6:1	13.2
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.3
CBS Sub-total	*19.0*	--	*13.5*
Desert Saltbush Scrub (DSS)	0.1	1:1	0.1
Desert Wash (DW)			
Access roads	0.6	6:1	3.6
Lattice tower footings	<0.1	6:1	0.1
DW Sub-total	*0.6*	--	*3.7*
Arrow Weed Thicket (AT)	0.3	1:1	0.3
Active Agriculture (AG)	458.1	N/A	-
Disturbed land (DL)	7.9	N/A	-
Permanent Total	486.0	--	17.2
TEMPORARY IMPACTS			
Creosote bush–white burr sage scrub (CBS)			
Pullsite	0.8	6:1	4.8
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	4.0	6:1	24.0
Trench	<0.1	6:1	<0.1
CBS Sub-total	*6.5*	--	*39.0*
Desert Wash (DW)			
Lattice tower sites	0.8	6:1	4.8
DW Sub-total	*0.8*	--	*4.8*
Temporary Total	7.3	--	43.8
TOTAL MITIGATION	--	--	61.0

*Includes A-frames.
**No mitigation is required due to proposed project habitat restoration under and surrounding the solar panels.
Source: RECON Environmental Inc., 2010.

TABLE 4.12-16
Alternative 2-Reduced Solar Energy Facility Site Mitigation Requirements for Flat-tailed Horned Lizard Habitat

FTHL Habitat	Alternative 2-Reduced Solar Energy Facility Site Impact (acres)	Mitigation Ratio	Alternative 2-Reduced Solar Energy Facility Site Mitigation Required (acres)
PERMANENT IMPACTS			
Inside FTHL MA			
Access roads	2.8	6:1	16.8
Monopole footings	<0.1	6:1	<0.1
Lattice tower footings*	<0.1	6:1	0.4
Total Permanent	2.8	--	17.2
TEMPORARY IMPACTS			
Inside FTHL MA			
Pullsite	0.8	6:1	4.8
Monopole work areas	1.7	6:1	10.2
Lattice tower work areas*	4.8	6:1	28.8
Trench	<0.1	6:1	<0.1
Inside Sub-total	*7.3*	--	*43.8*
Total Temporary	7.3	--	43.8
TOTAL MITIGATION REQUIRED	--	--	61.0

Source: RECON Environmental Inc., 2010.

4.12.3.5 Impact Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure B1:
Implementation of Mitigation Measure B1 would not result in a direct or indirect impact because mitigation for the permanent and temporary impacts to vegetation communities would be accomplished through required mitigation acres.

Impact Analysis of Mitigation Measure B2:
Implementation of Mitigation Measure B2 would not result in a direct or indirect impact because a Weed Management Plan will be developed and implemented. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. Furthermore, all herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and federal agency for use on public lands will be used within or adjacent to the project site.

Impact Analysis of Mitigation Measure B3:
Implementation of Mitigation Measure B3 would not result in a direct or indirect impact because initial grading would take place between September 1 and January 31 to avoid impacts to any breeding burrowing owls. Any area where owls are sighted would be subject to frequent surveys by a Designated

Biologist or Biological Monitor to ensure that owls can be properly relocated before nesting occurs. In addition, an approved biologist shall prepare a Mitigation and Monitoring Plan that will detail the approved, site-specific methodology to minimize and mitigate impacts to the burrowing owl.

Impact Analysis of Mitigation Measure B4:
Implementation of Mitigation Measure B4 would not result in a direct or indirect impact because a brief Annual Report will be submitted to the relevant resource agencies documenting the implementation of general measures including speed limits, annual formal Worker Education Training, a Raven Control Plan, a Weed Management Plan, a Wildlife Mortality Reporting Program, an Avian and Bat Protection Plan, as well as any resource-specific measures such as habitat restoration and/or compensation.

Impact Analysis of Mitigation Measure B5:
Implementation of Mitigation Measure B5 would not result in a direct or indirect impact because the measures proposed are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. These measures are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003).

Impact Analysis of Mitigation Measure B6:
Implementation of Mitigation Measure B6 would not result in a direct or indirect impact because measures would be implemented to prevent direct and indirect noise impacts to nesting raptors such as initial grading taking place outside the breeding season and conducting pre-construction clearance surveys to ensure that no work activity occurs in the buffer zone delineated, flagged, or otherwise marked until an approved biologist determines that the fledglings are independent of the nest.

Impact Analysis of Mitigation Measure B7:
Implementation of Mitigation Measure B7 would not result in a direct or indirect impact because an Avian and Bat Protection Plan (ABPP) will be prepared following the USFWS's guidelines and implemented by the Project proponent. The ABPP will outline conservation measures for construction and O&M activities that would reduce potential impacts to bird populations and will be developed by the applicant in conjunction with and input from the USFWS.

Impact Analysis of Mitigation Measure B8:
Implementation of Mitigation Measure B8 would not result in a direct or indirect impact because the measures proposed are designed to avoid, minimize harm or injury of the mountain plover and their habitat, and to compensate for unavoidable direct and indirect effects resulting from project construction and operations and maintenance. Measures include speed limits, the preparation and approval of an ABPP and Wildlife Mortality Reporting Program, pre-construction surveys, and the development and implementation of a Worker Education Awareness Program.

Impact Analysis of Mitigation Measure B9:
Implementation of Mitigation Measure B9 would not result in a direct or indirect impact because mitigation for impacts to jurisdictional waters will be conducted in concert with the purchase/acquisition of mitigation for FTHL.

Impact Analysis of Mitigation Measure B10:
Implementation of Mitigation Measure B10 would not result in a direct or indirect impact because mitigation for the permanent and temporary impacts to vegetation communities would be accomplished through required mitigation acres.

Impact Analysis of Mitigation Measure B11:
Implementation of Mitigation Measure B11 would not result in a direct or indirect impact because the compensation for potential direct and indirect effects that construction of the proposed project may have on FTHL are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003).

Impact Analysis of Mitigation Measure B12:
Implementation of Mitigation Measure B12 would not result in a direct or indirect impact because mitigation for the permanent and temporary impacts to vegetation communities would be accomplished through required mitigation acres.

Impact Analysis of Mitigation Measure B13:
Implementation of Mitigation Measure B13 would not result in a direct or indirect impact because the compensation for potential direct and indirect effects that construction of the proposed project may have on FTHL are in accordance with *the FTHL Rangewide Management Strategy* (ICC, 2003).

4.12.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

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4.13 Paleontological Resources

CEQA Significance Criteria/NEPA Indicators

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

Indicator 1: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

NEPA Methodology

Evaluation of potential impacts of the Proposed Action to Paleontological resources is based on a review of the project site information as provided by the applicant. The indicator mentioned above provides the context with which to analyze the impacts. Any destruction of a unique resource would provide the intensity of the impact of the Proposed action. This indicator has been developed to assist the reader in understanding the direct and indirect impacts of the implementation of the Proposed Action.

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 line and access road) is located in the Salton Trough and is underlain by quaternary lake deposits of ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. Therefore, the paleontological sensitivity of these lakebed deposits within the project site boundary is considered to be high. In addition, as discussed in Section 3.13 of this EIR/EA, according to the BLM's PFYC System, the lakebed deposits of ancient Lake Cahuilla located within the project site is identified as Class 4b. Class 4b is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but have lowered risks of human-caused adverse impacts and/or lowered risk of

natural degradation due to alluvial material, or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity. Management concern for paleontological resources in Class 4 is moderate to high, depending on the proposed action. For the Proposed Action, the management concern for paleontological resources is considered to be high. As such, paleontological resources potentially located on the project site could be adversely affected during construction of the solar energy facility and transmission lines as a result of disturbance by grading or construction activities; unauthorized, unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment (fossils out of context); and/or physical damage of fossil specimens. 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 under CEQA to paleontological resources 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 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 under CEQA to paleontological resources are anticipated during operation of Alternative 1-Alternative Transmission Line Corridor.

4.13.1.3 Alternative 2-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 2-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 2-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 2-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 under CEQA to paleontological resources are anticipated during operation of Alternative 2-Reduced Solar Energy Facility Site.

4.13.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects to paleontological resources under CEQA from the Alternative 3-No Action/No Project Alternative.

4.13.1.5 CEQA Summary

Based on the analysis provided above, implementation of the Proposed Action, Alternative 1-Transmission Line Corridor, and Alternative 2-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 3-No Action/No Project Alternative will not result in a significant paleontological resources impact under CEQA. Therefore, no mitigation is required.

4.13.2 NEPA Environmental Assessment Summary

4.13.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above, the project site is located in the Salton Trough and is underlain by quaternary lake deposits of ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. The paleontological sensitivity of these lakebed deposits within the project site boundary is considered to be high (NEPA indicator #1). In addition, the project site is identified as Class 4b under BLM's PFYC System (See Section 3.13 of this EIR/EA). Class 4b is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to alluvial material, or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity. For the Proposed Action, the management concern for paleontological resources is considered to be high. As such, paleontological resources potentially located on the project site could be affected during construction of the solar energy facility and transmission lines as a result of disturbance by grading or construction activities; unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment (fossils out of context); and/or physical damage of fossil specimens. Implementation of Mitigation Measures PR1 through PR5, provided below in Section 4.13.3, would potentially reduce impacts on paleontological resources.

B. Alternative 1-Alternative Transmission Line Corridor

Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor project site may contain paleontological resources as described above (NEPA Indicator #1). Mitigation Measures PR1 through PR5 for the Proposed Action would apply to Alternative 1-Alternative Transmission Line Corridor. Implementation of these mitigation measures would potentially reduce impacts on paleontological resources.

C. Alternative 2-Reduced Solar Energy Facility Site

Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site project site may contain paleontological resources as described above (NEPA Indicator #1). Mitigation Measures PR1 through PR5 for the Proposed Action would apply to Alternative 1-Alternative Transmission Line Corridor. Implementation of these mitigation measures would potentially reduce impacts on paleontological resources.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.13.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect effects on paleontological resources from the Alternative 3-No Action/No Project Alternative.

4.13.3 Mitigation Measures and Residual Impacts

The following mitigation measures have been identified to reduce the paleontological resources impacts associated with the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site.

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-permitted consulting paleontologist hired by the project proponent.

(a) Surveys shall be performed by a consulting paleontologist holding a valid BLM Paleontological Resources Use Permit. Submission of reports may be done directly by the paleontologist to the BLM. The project proponent is also responsible for all costs associated with the survey, including the consulting paleontologist's fees and charges, all survey costs, fossil preparation to the basic identification stage, analyses,

reports, and curation costs directly related to mitigation of the project's anticipated impacts. Any required monitoring and mitigation costs are also the responsibility of the project proponent. These costs are to be negotiated between the project proponent and the consulting paleontologist prior to beginning any data gathering, analysis, or field work, and these negotiations do not require BLM involvement or approval. Any new, additional, or modified curation agreements between the paleontologist and the official repository must be in place prior to starting field work.

(b) Authorization for an activity to proceed cannot be given by a consulting paleontologist. Performance of the survey, either by a consulting paleontologist or BLM staff, or submission of the report DOES NOT constitute approval for the activity to proceed. The BLM must review the report, including adequacy of the field methods and findings. The Authorized Officer must approve the findings and determine the need for monitoring prior to approval to proceed.

B. Conducting Field Surveys. Field surveys must be performed by the Principal Investigator or an approved Field Agent or Field Monitor (as defined in the following section) as authorized under a Paleontological Resource Use Permit. Field surveys and collections performed as a mitigation measure are not intended to be scientific research studies, but are meant to identify, avoid, or recover paleontological resources to prevent damage or destruction from project activities. However, proper scientific techniques and procedures must be utilized during all mitigation efforts. Safety should be an important consideration; therefore, surveys should not be attempted on cliff faces, in open, non-reinforced trenches deeper than five feet, or other unsafe areas.

1. The scope of the survey is dependent upon the scale of the project. 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 geographical data. Specimens must be collected during the survey or prior to commencement of any surface-disturbing activities.

(b) In many cases, isolated gar scales, chelonid (turtle) carapace or plastron fragments, crocodile and fish teeth, and unidentifiable bone fragments do not need to be collected. The location must be recorded and a description of the fossil material noted in the field notes and on a BLM Locality Form as part of the report. The context of these types of fossils should be considered, as they may represent rare occurrences or unusual faunal associations, and thus may be scientifically important and must be documented and voucher specimens collected where appropriate.

(c) Occurrences of plant or invertebrate fossils should be recorded and representative examples or voucher specimens collected where appropriate. Additional mitigation measures may be appropriate in some cases for these types of localities.

(d) If a large specimen or a concentration of significant fossils is located during the field survey, the available time and/or personnel may not allow for full recovery during the survey. The specimen(s) and locality(ies) should be stabilized as needed, and a determination made as to whether avoidance is necessary or whether full recovery of the specimen is required at a later time prior to disturbance activities. The Authorized Officer and project proponent must be notified, the mitigation alternatives discussed including funding for recovery, and a decision reached as soon as possible. If avoidance or later recovery is selected for mitigation, the find should be stabilized, buried if needed to protect the fossils and context, and appropriate measures implemented to reduce adverse effects from natural or human causes.

4. During the survey, locations or areas that exhibit a lithology suggesting a high probability of subsurface fossil material must be recorded, and a recommendation for the need for on-site monitoring, spot-checking, or testing shall be made in the report. This may include areas where no fossil material was found on the surface during the survey. The recommendation should consider the size and type of planned disturbance, such as the depth of a trenching operation or the acreage of surface disturbance.

5. Surveys must be performed only during times when the ground is visible. Biological timing restrictions, such as critical nesting or birthing times, may confine or delay field activities.

C. Report of Survey Findings. After completion of the field survey, the paleontologist must file a written report with the BLM and the designated repository. This report must summarize the results of the survey as well as appropriate geological and paleontological background information as described below. It should also include any recommendations for on-site monitoring or other mitigation. For small projects (less than 10 acres), the report must be filed within 30 days after completion of the survey unless the BLM has specifically approved a

different time. The time frame for submission of the report for large projects should be negotiated during project scoping. On a case-by-case basis, approval to begin project activities may be granted for those portions of the project area noted to be less paleontologically sensitive prior to final approval of the report.

1. Reports of the general findings and the background information must be submitted to the BLM project manager or Authorized Officer (if appropriate), the Paleontology Lead or Regional Paleontologist, and each affected Field Office. Reports must include the information and details as specified on page 9 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources," as applicable.

2. Exact locations of fossil localities contained in these reports are considered sensitive and must not be included in any public document. The BLM locality form (8270-3) or equivalent, 1:24000 scale map showing the localities, and any other information containing specific fossil locations may be bound separately or placed in a separate section to allow for preservation of confidential locality data. A copy of this confidential section must be submitted to the Paleontology Lead (in some cases, two copies may be required). A copy for each affected Field Office may be required. Another copy must be submitted to the official repository with the collected materials.

3. BLM GPS recording and data standards must be used to report paleontological locality data. Existing USGS topographic maps are often based on the NAD27 standard, so locality data calculated from a map base must be converted before submission. Data must be recorded and reported with a mean error of +/- 12.5 meters or less, at a 95 percent confidence level. For small localities, data should be reported as point data. Larger polygonal localities should be reported using coordinates of a centroid and a description of the approximate size, or the key coordinate points of a bounding polygon. Linear features, such as roads or surveyed project boundaries, must be reported as line data. The 1:24000 scale map(s) accompanying the locality forms should graphically illustrate the locality, either as a point or an outline of the locality as appropriate, and be clearly labeled with the locality or field number.

D. Report Approval. The Authorized Officer will analyze the Survey Report for adequacy within 30 working days of receipt. Notification accepting the report, or explaining any identified deficiencies, will be sent to the consulting paleontologist and the project proponent with a copy placed in the project file. Any deficiencies must be corrected as soon as possible, usually initiated within five working days, and the report must be resubmitted for approval. Any resubmissions must be prompt, but consideration will be made for the amount of time needed for major corrections. Deficiencies directly affecting the survey, such as inadequate survey procedures or incomplete data, must be corrected before granting approval for the project to proceed. Deficiencies not directly affecting the survey, such as curation issues, will not prevent approval of the project, but must be corrected as soon as possible.

Determination of Further Mitigation Requirements. Based on the field survey, the need for additional mitigation to protect paleontological resources shall be determined. The Authorized Officer, in consultation with Regional Paleontologist or the Paleontology Lead, shall analyze the Survey Report for survey findings and any mitigation recommendations. If no further mitigation is needed, the Authorized Officer will promptly notify the project proponent that there 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 PR1, a Monitoring Plan shall be developed and implemented (if required).

A monitoring plan can be developed by a qualified paleontologist hired by the proponent who holds a current California BLM Paleontology Use Permit. The plan must be appropriately scaled to the size and complexity of the anticipated monitoring. If developed by a third party, the appropriate Paleontology Lead or Regional Paleontologist shall review the plan for sufficiency prior to acceptance. Monitoring of the project may proceed when the monitoring plan is approved by the Authorized Officer. A monitoring plan indicates the treatments recommended for the area of the proposed disturbance and must minimally address the following:

1. The recommended approach to additional specimen collection, such as total or partial recovery or sampling; and,
2. The specific locations and intensity of monitoring or sampling recommended for each geologic unit, stratigraphic layer, or area impacted.

   Monitoring intensity is determined based on the analysis of existing data and/or field surveys and any previous monitoring efforts.

Types of Monitoring. There are two types of monitoring: 1) on-site, performed during ongoing 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 soil material back into the excavation. Examples of these key times may be when a pipeline trenching operation is complete but before pipe is placed and the trench backfilled or prior to redistribution of topsoil. Spot-checking requires close coordination with the project proponent and the paleontologist, and usually requires the paleontologist to be available on short notice. In some instances, it may be advantageous to allow rain and/or wind to erode away loose matrix and concentrate fossil material to increase visibility. The paleontologist will coordinate with the project proponent to allow sufficient time for this action to occur, as appropriate to conditions, expected fossil material, and construction schedules.

The paleontologist should report potentially fossiliferous areas in the final report to allow for future assessment of sites, even if no fossils were located during the project monitoring.

Types of Field Personnel. It may be necessary to employ a number of paleontology field personnel simultaneously. There may be a lack of fully qualified paleontologists to perform all the necessary monitoring during the scheduled times of construction. Use of additional personnel for field work is permissible, but Field Agents and Field Monitors (described below) must be requested by the Permittee and authorized by the BLM prior to field work.

1. Principal Investigator – The person listed as Permittee (Permit item 1a) on the Paleontological Resources Use Permit is the Principal Investigator (PI) and is responsible for all actions under the permit, for meeting all permit terms and conditions, and for the performance of all other personnel. This person is also the contact person for the project proponent and the BLM.

2. Field Agent – Other qualified paleontologists may perform field work independently of the PI under the conditions of this permit. Résumés must be submitted to BLM and must demonstrate qualifications equivalent to those of Permittees. Field Agents must be listed on the permit under "Name(s) of individual(s) responsible for planning, supervising, and carrying out fieldwork" (Permit item 8) or authorized in a separate letter from BLM. They must follow all the permit terms and conditions applicable to field work and must carry a copy of the permit, included terms and conditions, and separate authorizing letter (if used) while in the field. Field work results must be reported to the PI, who will then submit required reports.

3. Field Monitor – Field Monitors may be utilized for supplemental on-site monitoring of surface-disturbing activities when the PI or a Field Agent is performing field work elsewhere. Field Monitors must have sufficient field experience to demonstrate acceptable knowledge of fossil identification, collection methods, and paleontological techniques. The PI must supply a summary of each person's experience to the BLM prior to field work. Field Monitors must be approved by the BLM prior to performing field work and must carry a copy of the permit while in the field. The PI or Field Agent must be in communication with the Field Monitor using a portable communication device, such as a cell phone or two-way radio, and are required to be near enough to the Field Monitor to allow for prompt examination of all fossil discoveries (no more than two hours away) by the PI or Field Agent.

4. Field Assistant – Additional personnel not meeting the previously cited experience or knowledge levels may be utilized during field work, but must be under direct, on-site supervision of either the PI or a Field Agent as part of a supervised crew. Field assistants must have at least four to eight hours of training or experience received from a qualified paleontologist in identifying paleontological resources prior to performing field work or when first utilized in this capacity. A listing of all Field Assistants (including contact information) must be supplied prior to any field work. All discoveries made by a Field Assistant must be immediately reported to the PI or Field Agent on site. To ensure proper supervision, an appropriate ratio of Field Assistants per PI or Field Agent must be maintained. The complexity of the project, the area to be covered, and the experience of the assistants are some of the factors that should be considered in determining the proper ratio, but commonly five to seven assistants is the maximum number that can be supervised by one PI or Field Agent.

Work Stoppage. If significant fossil material is discovered during construction activities, the PI, Field Agents, and Field Monitors have the authority to temporarily halt surface disturbing actions until an assessment of the find is completed and appropriate protection measures taken. Efforts will be made to complete fossil recovery with minimal work stoppage. However, in some cases, an extended period of work stoppage may be required. If the paleontological resource can be avoided, mitigated, or collected within approximately two hours, work may resume after approval from the PI or Field Agent, and the Authorized Officer must be notified as soon as possible of the discovery and any mitigation efforts that were undertaken. If the find cannot be mitigated within a reasonable time (two hours), the concurrence of the Authorized Officer or official representative for a longer work stoppage must be obtained. Work may not resume until approval is granted from both the PI or Agent and the Authorized Officer.

PR3 Upon completion of all field work, including survey and monitoring, the PI must submit within 30 days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. A copy of the report may be provided to the project proponent if required, but without the BLM Locality forms. Reports must include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources," as applicable.

PR4 When the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed. The project proponent will be notified in writing as soon as possible by the Authorized Officer after consulting with the Paleontology Lead or Regional Paleontologist and a copy of the notification placed in the project file.

The responsibility of the project proponent ends when appropriate mitigation related directly to the project is completed and final approval is received from the Authorized Officer. Any additional field collection, quarrying, final specimen preparation, etc. will be considered to be research, and will be the responsibility of the consulting paleontologist or another approved party. The project proponent will not be held responsible for completion of any research project. However, the

project proponent can choose to sponsor further research. A separate research permit will be required for additional research activities.

PR5 Fossil specimens and related data collected from public lands during field surveys and mitigation remain the property of the Federal government. 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.

4.13.4.1 Analysis of Mitigation Measures

Impact Analysis of Mitigation Measure PR1:

Implementation of Mitigation Measure PR1 would not result in a direct or indirect impact because the mitigation requires a paleontological field survey of the project site, and that survey would not include potential impacts to paleontological resources or other resources. The paleontological field survey shall be conducted in accordance with the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources." Surveys will be conducted by a consulting paleontologist holding a valid BLM Paleontological Resources Use Permit. After completion of the field survey, the paleontologist will file a written report with the BLM and the designated repository. This report will summarize the results of the survey as well as appropriate geological and paleontological background information. The report will include, if necessary, any recommendations for on-site monitoring or other mitigation.

Impact Analysis of Mitigation Measure PR2:

Implementation of Mitigation Measure PR2 would not result in a direct or indirect impact because a Monitoring Plan shall be developed and implemented, if required, based on the results from the field survey (as required by Mitigation Measure PR1).

Impact Analysis of Mitigation Measure PR3:

Implementation of Mitigation Measure PR3 would not result in a direct or indirect impact because upon completion of all field work, including survey and monitoring, the PI must submit within 30 days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. Reports must include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources," as applicable.

Impact Analysis of Mitigation Measure PR4:

Implementation of Mitigation Measure PR4 would not result in a direct or indirect impact because when the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed.

Impact Analysis of Mitigation Measure PR5:

Implementation of Mitigation Measure PR5 would not result in a direct or indirect impact because fossil specimens and related data collected from public lands during field surveys and mitigation remain the property of the Federal government. They must be placed in the approved repository(s) identified on the Paleontological Resource Use Permit held by the consulting paleontologist as soon as practical and receipt(s) of collections submitted to the BLM.

4.9.3.6 Residual Impact Analysis of Mitigation Measures

The residual impacts would be the same as the impacts described above.

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4.14 Socioeconomic Conditions and Environmental Justice

The CEQ regulations implementing NEPA (Section 1508.14) states 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, under CEQA would occur if the Proposed Action 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 if the Proposed Action would:

Indicator 4: *Result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, for example, household population with low income or a minority population in comparison with a population that is not low income or minority.*

NEPA Methodology

Evaluation of the Proposed Action's impacts on Social and Environmental Justice issues can be done with respect to the above mentioned indicators. The context of impacts is shown for social impacts with regard to impacts to the surrounding community and how the implementation of the Proposed Action will impact those communities. Impacts are analyzed with respect to housing, growth, and the displacement of one social group to accommodate the construction of this project. The intensity of the impacts to social and environmental justice issues would be if there were a direct affect of the implementation of the project to those issues or other factors. The indicators provide the reader a context with which to review the analysis and additionally, a sense of the intensity of the affects of the Proposed Action.

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, direct population growth is defined as workers permanently moving in to the project area because of project construction and operation, thereby encouraging construction of new homes or extension of roads or other infrastructure.[1] To determine whether the Proposed Action would directly induce population growth, the availability of the local workforce and population in the region was analyzed. "Local workforce" is defined as Imperial, San Diego, Riverside, and San Bernardino Counties. Construction workers beyond a two-hour commute would likely relocate for the workweek but would return to their primary residences and families on weekends.

The workforce for the Proposed Action is expected to consist of 250 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. In addition, approximately eight workers would be required during construction of the access road. The existing dirt access road would be widened five additional feet and upgraded. The construction activities associated with the access road are expected to require approximately five months. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 250 temporary construction workers would result in a 0.18% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to be derived from the local population, and construction of the project would not result in a short-term growth-inducing impact. 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

[1] See EIR/EA Chapter 6.0 for a discussion of potential indirect growth-inducing impacts associated with the availability of the project's energy production.

the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Proposed Action. As such, the Proposed Action would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, the Proposed Action's impacts on housing, as a result of construction and operation of the Proposed Action is not considered a significant impact under CEQA.

Furthermore, as discussed above the long-term operations and maintenance of the Proposed Action would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Proposed Action would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Also, the Proposed Action does not provide any infrastructure that would indirectly induce substantial population growth. For these reasons, the Proposed Action's impacts with regard to directly inducing substantial population growth are not considered a significant impact under CEQA.

The Proposed Action would be constructed in an uninhabited area. The portion of the project site within the County of Imperial is currently used for agricultural production. The transmission line corridor and portion of the access road are located on existing BLM land. Therefore, the Proposed Action would not displace people or existing housing. In addition, the proposed transmission line would be constructed within an area on BLM land currently designated as a utility corridor and would not physically divide any community. Therefore, no significant impact under CEQA is identified for this issue area.

The Proposed Action would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Proposed Action's impacts with regard to this issue area are considered less than significant. Rather, as discussed below, the Proposed Action would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit the low-income and minority populations of the area.

B. Environmental Justice

Indicator 4: *Result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, for example, household population with low income or a minority population in comparison with a population that is not low income or minority.*

The minority population percentages in the Imperial County area are predominately Hispanic or Latino composition, with Hispanics/Latinos making up approximately 94.2 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 4.9 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.

The solar energy facility is proposed on farmland in an agricultural area. As depicted in Figure 4.14-1, the solar energy facility is zoned 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-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-R and A-3 zoning) and solar energy plants would be permitted in these surrounding areas. There are no residentially zoned lands, or an established community within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use with land uses in the surrounding area. As depicted on Figure 2-5 of this EIR/EA, the transmission lines would be located entirely within a designated utility corridor on BLM lands. A portion of the access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation.

With implementation of the Proposed Action, solar panels and auxiliary facilities would be placed on active agricultural land. The temporary conversion (30 year) from agricultural land to a solar energy facility would cease the agricultural production of the land and would reduce current agricultural employment of 2-3 persons for the entire solar energy facility site.

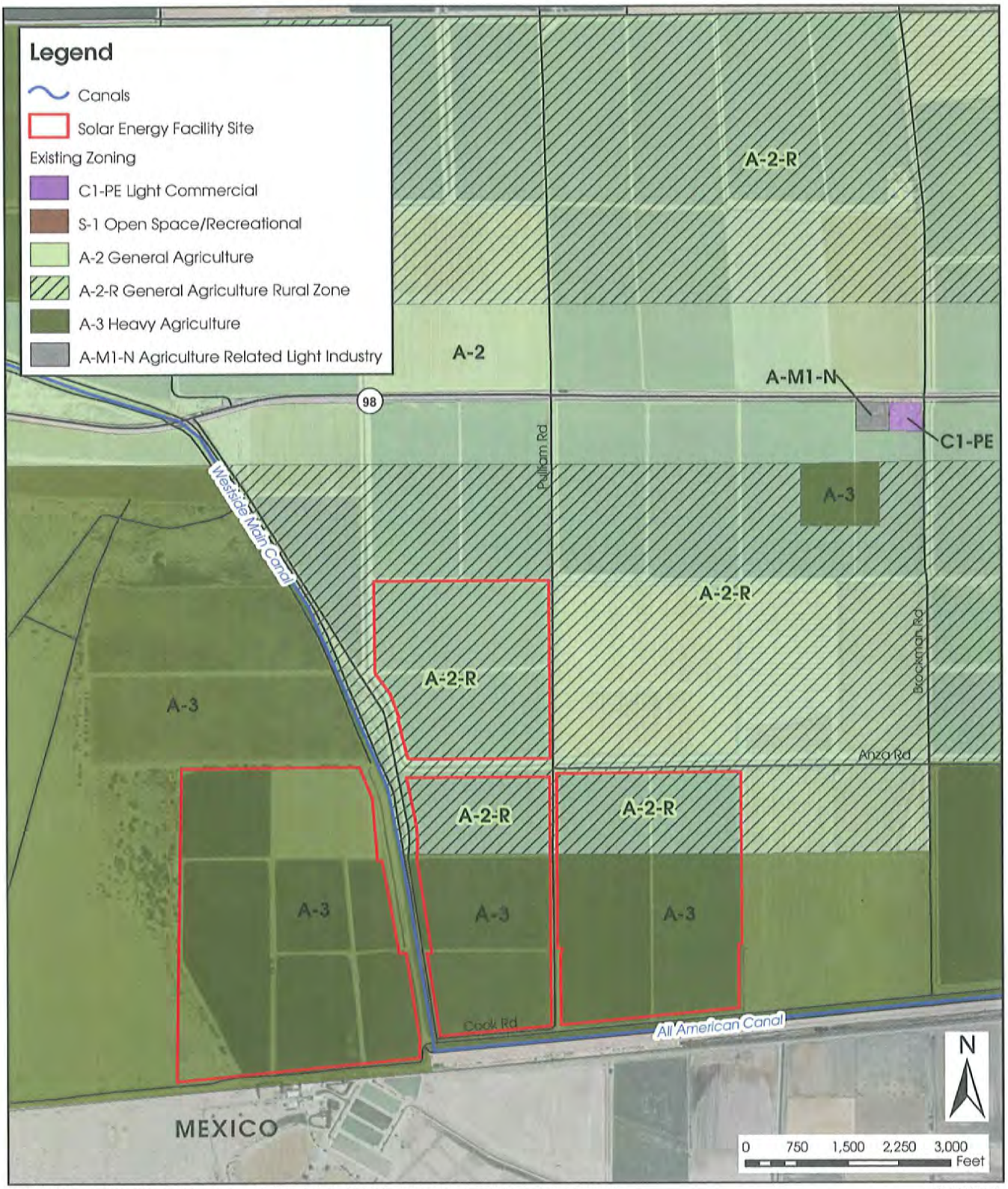
According to the property owners of the site, a total of two employees were employed for the harvesting or planting period. In 2009, one person was employed year round and one additional person from May through November for labor work. It is estimated that 1.25 employees would lose their job if the ranch were taken out of production and placed in a fallowing program. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. As such, the construction and operation of the solar energy facility is considered a public benefit by providing employment opportunities to low- income and minority populations in the area. The placement of the Proposed Action in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is not low income or minority.

C. Beneficial Effects

The following describes the beneficial effects on the Proposed Action on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix. California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total



SOURCE: ESRI, 2010; County of Imperial, 2010; BRG Consulting, Inc., 2010 10/12/10

BRG CONSULTING, INC.

Imperial Solar Engery Center South

Solar Energy Facility
and Surrounding Area Zoning

FIGURE
4.14-1

F:\projects\1009 Imperial Solar South\2nd Screencheck EIR_EA\Chapter 4\Section 14\Figure 4.14-1 Zoning Map.mxd

renewable power needed to achieve these requirements. Because solar generation occurs during peak use hours, solar power can enhance grid stability by matching generation to the daily electric load profile. Although solar power is an intermittent source of electric energy, the on-site Solar Meteorological Station(s) will provide real-time data for reliable electrical generation predictions and coordination with the CAISO.

The proposed solar energy facility would benefit farmers in the long-term by improving the fertility of the land. The solar panels will be 2-feet by 3-feet with a 1-foot gap between each panel so water is only concentrated in a very small area, which helps guard against soil erosion. Allowing the land to lay fallow while the site is being used as a solar energy facility would provide the opportunity for nutrients in the soil to increase making it more fertile when the land must be restored to agricultural usage. The property will be leased for approximately 30 years. This lease requires the applicant to restore the land to its current agricultural use at the end of the project term.

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 200MW, this will off-set approximately 183,600 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California

Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the City of Calexico. Calexico has a low-income rural population in Imperial County. The solar energy facility is expected to create local employment opportunities both during the construction and operating periods. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. 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 project under Alternative 1-Alternative Transmission Line Corridor is expected to consist of 250 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 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. The construction activities are expected to require approximately 17 months. In addition, approximately eight workers would be required during construction of the access road. The existing dirt access road would be widened five additional feet and upgraded. The construction activities associated with the access road are expected to require approximately five months. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 250 temporary construction workers would result in a 0.18% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to come from the local population and would not result in short-term growth-inducing impact. Some of the construction workforce would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Typically, non-local skilled craft workers do not bring families with them on these short-term construction assignments. Therefore, most are expected to stay in local hotels or rental housing units. The California

Department of Finance estimates Imperial County's housing vacancy rate was 10.91 percent on January 1, 2010, which equated to over 6,100 vacant housing units. Therefore, based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Alternative 1-Alternative Transmission Line Corridor. As such, the Alternative 1-Alternative Transmission Line Corridor would not displace any existing housing or displace any people, necessitating the construction or replacement housing elsewhere. For these reasons, the Alternative 1-Alternative Transmission Line Corridor's impacts on housing, as a result of construction and operation of the Alternative 1-Alternative Transmission Line Corridor is not considered a significant impact under CEQA.

Furthermore, as discussed above the long-term operations and maintenance of the project under Alternative 1-Alternative Transmission Line Corridor would only require four employees. Due to the minimal amount of workers required, the operational activities associated with the Alternative 1-Alternative Transmission Line Corridor would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Neither does the Alternative 1-Alternative Transmission Line Corridor provide any infrastructure which would indirectly induce substantial population growth. For these reasons, the Alternative 1-Alternative Transmission Line Corridor's impacts with regard to directly inducing substantial growth are not considered a significant impact under CEQA.

The Alternative 1-Alternative Transmission Line Corridor would be constructed in an uninhabited area. The portion of the project site within the County of Imperial is currently used for agricultural production. The transmission line corridor and access road are located on existing BLM land. 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 significant impact under CEQA is identified for this issue area.

The Alternative 1-Alternative Transmission Line Corridor would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Alternative 1-Alternative Transmission Line Corridor's impacts with regard to this issue area are considered less than significant under CEQA. Rather, the Alternative 1-Alternative Transmission Line Corridor would create solar energy for the area and is considered 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 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 is predominately Hispanic or Latino composition, with

Hispanics/Latinos making up approximately 94.2 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 4.9 percent. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consist of minority and low-income individuals. However, 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 energy facility is proposed on farmland in an agricultural area. As depicted in Figure 4.14-1, the solar energy facility is zoned 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-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-R and A-3 zoning) and solar energy plants would be permitted in these surrounding areas. There are no residentially zoned lands, or established community within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use in the surrounding area. As depicted on Figure 2-5 of this EIR/EA, the transmission lines would be located within a designated utility corridor on BLM lands. A portion of the access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation.

With implementation of the Alternative 1-Alternative Transmission Line Corridor, solar panels and auxiliary facilities would be placed on active agricultural land. The temporary (30 year) conversion from agricultural land to a solar energy facility would cease the agricultural production of the land and would reduce current agricultural employment of 2-3 persons for the entire solar energy facility site.

According to the property owners of the site, a total of two employees were employed for the harvesting or planting period. In 2009, one person was employed year round and one additional person from May through November for labor work. It is estimated that 1.25 employees would lose their job if the ranch were taken out of production and placed in a fallowing program. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. As such, the construction and operation of the solar energy facility is considered a public benefit by providing employment opportunities to low-income and minority populations in the area. The placement of the Alternative 1-Alternative Transmission Line Corridor in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is not low income or minority.

C. Beneficial Effects

The following describes the beneficial effects of the Alternative 1-Alternative Transmission Line Corridor on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during 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.

The proposed solar energy facility would benefit farmers in the long-term by improving the fertility of the land. The solar panels will be 2-feet by 3-feet with a 1-foot gap between each panel so water is only concentrated in a very small area, which helps guard against soil erosion. Allowing the land to lay fallow while the site is being used as a solar energy facility would provide the opportunity for nutrients in the soil to increase making it more fertile when the land must be restored to agricultural usage. The property will be leased for approximately 30 years. This lease requires the applicant to restore the land to its current agricultural use at the end of the project term.

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 200MW, this will off-set approximately 183,600 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the City of Calexico. Calexico has a low-income rural population in Imperial County. The solar energy facility is expected to create local employment opportunities both during the construction and operating periods. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. 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-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 2-Reduced Solar Energy Facility Site is expected to consist of 250 workers during peak construction periods with hours generally between 7am and 3pm Monday through Friday during the temporary construction phase. As discussed in EIR/EA Section 3.14, the total population for Imperial County is 142,361 and the addition of 250 temporary construction workers would result in a 0.18% percent increase in the population. However, there is currently a 19.4% unemployment rate in Imperial County; therefore, the majority of the construction workforce is expected to arise from the local population and would not result in short-term growth-inducing impact. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. Construction of the Alternative 2-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. The construction activities are expected to require approximately 17 months. In addition, approximately eight workers would be required during construction of the access road. The existing dirt access road would be widened five additional feet and upgraded. The construction activities associated with the access road are expected to require approximately five 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-Reduced Solar Energy Facility Site. As such, the Alternative 2-Reduced Solar Energy Facility Site would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, the Alternative 2-Reduced Solar Energy Facility Site's impacts on housing, as a result of construction and operation of the Alternative 2-Reduced Solar Energy Facility Site is not considered a significant impact under CEQA.

Furthermore, as discussed above the long-term operations and maintenance of the Alternative 2-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 2-Reduced Solar Energy Facility Site would not directly induce substantial growth in the area and would not result in a significant impact under CEQA. Because the facility would only be staffed by four workers at a time, new hires associated with the facility would be approximately seven. Neither does the Alternative 2-Reduced Solar Energy Facility Site provide any infrastructure which would indirectly induce substantial population growth. For these reasons, the Alternative 2-Reduced Solar Energy Facility Site's impacts with regard to directly inducing substantial growth are not considered a significant impact under CEQA.

The Alternative 2-Reduced Solar Energy Facility Site would be constructed in an uninhabited area. The portion of the project site within the County of Imperial is currently used for agricultural production. The transmission line corridor and access road are located on existing BLM land. Therefore, the Alternative 2-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 significant impact under CEQA is identified for this issue area.

The Alternative 2-Reduced Solar Energy Facility Site would result in minor, if any, socioeconomic conditions impacts. For purposes of CEQA, the Alternative 2-Reduced Solar Energy Facility Site's impacts with regard to this issue area are less than significant. Rather, the Alternative 2-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 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-Reduced Solar Energy Facility Site's minority population percentages in the Imperial County area is predominately Hispanic or Latino composition, with Hispanics/Latinos making up approximately 94.2 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 4.9 percent. As discussed in EIR/EA Section 3.14, the Imperial County area predominately consist of minority and low-income individuals. However, the Alternative 2-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 2-Reduced Solar Energy Facility Site would not displace any residents or traverse an established community.

The solar energy facility is proposed on farmland in an agricultural area. As depicted in Figure 4.14-1, the solar energy facility is zoned 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-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-R and A-3 zoning) and solar energy plants would be permitted in these surrounding areas. There are no residentially zoned lands, or established community within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use in the surrounding area. As depicted on Figure 2-5 of this EIR/EA, the transmission lines would be located entirely within a designated utility corridor on BLM lands. A portion of the access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation.

With implementation of the Alternative 2-Reduced Solar Energy Facility Site, solar panels and auxiliary facilities would be placed on active agricultural land. The temporary (30 year) conversion from agricultural land to a solar energy facility would cease the agricultural production of the land and would reduce current agricultural employment of 2-3 persons for the entire solar energy facility site.

According to the property owners of the site, a total of two employees were employed for the harvesting or planting period. In 2009, one person was employed year round and one additional person from May through November for labor work. It is estimated that 1.25 employees would lose their job if the ranch were taken out of production and placed in a fallowing program. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. As such, the construction and operation of the solar energy facility is considered a public benefit by providing employment opportunities

to low-income and minority populations in the area. The placement of the Alternative 2-Reduced Solar Energy Facility Site in this portion of the County would not result in impacts that are appreciably more severe in magnitude or are predominately borne by any segment of the population, such as household population with low income or a minority population in comparison with a population that is not low income or minority.

C. Beneficial Effects

The following describes the beneficial effects of the Alternative 2-Reduced Solar Energy Facility Site on the surrounding area.

Social and Environmental Benefits

The proposed Generating Facility provides a host of social and environmental benefits consistent with California Public Utilities Code § 399.11 et seq., including: Increasing The Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Due to rapid developments in the solar power industry, coupled with recent cost reductions and the inherent "peak shaving" benefits of solar power, solar energy is poised to contribute a substantial amount of the total renewable power needed to achieve these requirements. Because solar generation occurs during 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.

The proposed solar energy facility would benefit farmers in the long-term by improving the fertility of the land. The solar panels will be 2-feet by 3-feet with a 1-foot gap between each panel so water is only concentrated in a very small area, which helps guard against soil erosion. Allowing the land to lay fallow while the site is being used as a solar energy facility would provide the opportunity for nutrients in the soil to increase making it more fertile when the land must be restored to agricultural usage. The property will be leased for approximately 30 years. This lease requires the applicant to restore the land to its current agricultural use at the end of the project term.

Economic Benefits

Similar to the Proposed Action, noteworthy public benefits of the Alternative 2-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-Reduced Solar Energy Facility Site would have a ripple effect on the local economy.

Similar to the Proposed Action, the Alternative 2-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 200MW, this will off-set approximately 183,600 tons of CO_2 equivalents annually from the atmosphere based on an electricity emission factor of 805.83 lbs of CO_2 equivalents per MWh for the WECC California eGRID subregion averaged from 1990 to 2006 (California Climate Action Registry General Reporting Protocol Version 3.1, January 2009). Furthermore, a substantial amount of criteria pollution emissions will be displaced. This will help to ameliorate respiratory afflictions and other public health conditions that arise from poor air quality.

Benefits to Communities with a Plurality of Minority or Low-Income Populations

The facility is being constructed near the City of Calexico. Calexico has a low-income rural population in Imperial County. The solar energy facility is expected to create local employment opportunities both during the construction and operating periods. According to Kelly Strickland of Cassidy Turley BRE Commercial, Renewable Energies Division, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. 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-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no effects on socioeconomic conditions and environmental justice from Alternative 3-No Action/No Project Alternative.

4.14.1.5 CEQA Summary

Implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative would not result in a significant socioeconomic conditions and environmental justice impact under CEQA and no mitigation is required.

4.14.2 NEPA Environmental Assessment Summary

A. Proposed Action

Based on the analysis provided above under Section 4.14.1.1, the Proposed Action would not trigger any other development that would place socioeconomic/environmental justice burdens on the County of Imperial and nearby cities.

The Proposed Action is expected to consist of 250 workers during the temporary construction phase. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. Some of the workers would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Most workers are expected to stay in local hotels or rental housing units. Based on the available regional housing stock, there are anticipated to be more than enough vacant homes to support any project-related immigration under the Proposed Action. The Proposed Action would not directly induce substantial growth in the area. As such, the Proposed Action would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, construction and operation of the Proposed Action would not directly or indirectly impact housing.

Imperial County predominately consists of minority and low-income individuals. Based on the analysis provided above under Section 4.14.1.1, the Proposed Action would result in minor, if any, direct socioeconomic impacts. As discussed above, the Proposed Action would create solar energy for the area and is considered a socioeconomic benefit to the County and surrounding areas as a whole, which would benefit low-income and minority populations in the area.

Based on the analysis provided above under Section 4.14.1.1, the proposed solar energy facility will be located on farmland in an agricultural area. There are no residentially zoned lands, or established communities within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use with the surrounding area. In addition, the proposed transmission line would be located entirely within a designated utility corridor on BLM lands. A portion of the proposed access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation. As discussed above under Section 4.14.1.1, it is estimated that 1.25 employees would lose their job if the ranch on the solar energy facility were taken out of production and placed in a fallowing program. However, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. Therefore, the construction and operation of the Proposed Action would not directly or indirectly impact employment opportunities. Rather, the Proposed Action will provide beneficial effects on the surrounding area by providing social and environmental benefits, promoting stable electricity prices, reducing reliance on imported fuels, protecting public health, and benefits to communities with minority or low-income populations by creating local employment opportunities. As such, the Proposed Action would not directly or indirectly impact environmental justice.

B. Alternative 1-Alternative Transmission Line Corridor

Based on the analysis provided above under Section 4.14.1.2, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would not trigger any other development that would place socioeconomic/environmental justice burdens on the County of Imperial and nearby cities.

The Alternative 1-Alternative Transmission Line Corridor is expected to consist of 250 workers during the temporary construction phase. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. Some of the workers would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Most workers are expected to stay in local hotels or rental housing units. 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. Similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor would not directly induce substantial growth in the areas. As such, the Alternative 1-Alternative Transmission Line Corridor would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, construction and operation of the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impact housing.

Imperial County predominately consists of minority and low-income individuals. Based on the analysis provided above under Section 4.14.1.2, similar to the Proposed Action, Alternative 1-Alternative Transmission Line Corridor would result in minor, if any, direct socioeconomic impacts. As discussed above, 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 low-income and minority populations in the area.

Based on the analysis provided above under Section 4.14.1.2, the proposed solar energy facility will be located on farmland in an agricultural area. There are no residentially zoned lands, or established communities within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use with the surrounding area. In addition, the proposed transmission line would be located entirely within a designated utility corridor on BLM lands. A portion of the proposed access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation. As discussed above under Section 4.14.1.2, it is estimated that 1.25 employees would lose their job if the ranch on the solar energy facility were taken out of production and placed in a fallowing program. However, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. Therefore, similar to the Proposed Action, the construction and operation of the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impact employment opportunities. Rather, the Alternative 1-Alternative Transmission Line Corridor will provide beneficial effects on the surrounding area by providing social and environmental benefits, promoting stable electricity prices, reducing reliance on imported fuels, protecting public health, and benefits to communities with minority or low-income populations by creating local employment opportunities. As such, the Alternative 1-Alternative Transmission Line Corridor would not directly or indirectly impact environmental justice.

C. Alternative 2-Reduced Solar Energy Facility Site

Based on the analysis provided above under Section 4.14.1.3, similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site would not trigger any other development that would place socioeconomic/environmental justice burdens on the County of Imperial and nearby cities.

The Alternative 2-Reduced Solar Energy Facility Site is expected to consist of 250 workers during the temporary construction phase. During operations and maintenance of the proposed facilities, approximately four fulltime personnel would be required. Some of the workers would be recruited locally and available through the existing labor pool, and some would be specialized technical workers from outside of the local area. Most workers are expected to stay in local hotels or rental housing units. 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-Reduced Solar Energy Facility Site. Similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site would not directly induce substantial growth in the areas. As such, the Alternative 2-Reduced Solar Energy Facility Site would not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere. For these reasons, construction and operation of the Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly impact housing.

Imperial County predominately consists of minority and low-income individuals. Based on the analysis provided above under Section 4.14.1.3, similar to the Proposed Action, Alternative 2-Reduced Solar Energy Facility Site would result in minor, if any, direct socioeconomic impacts. As discussed above, the Alternative 2-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 low-income and minority populations in the area.

Based on the analysis provided above under Section 4.14.1.3, the proposed solar energy facility will be located on farmland in an agricultural area. There are no residentially zoned lands, or established communities within or surrounding the solar energy site. Therefore, the solar energy facility is a compatible use with the surrounding area. In addition, the proposed transmission line would be located entirely within a designated utility corridor on BLM lands. A portion of the proposed access road is also located on BLM lands. This area is desert lands and is not within, or near an established community that would be affected by its development and operation. As discussed above under Section 4.14.1.3, it is estimated that 1.25 employees would lose their job if the ranch on the solar energy facility were taken out of production and placed in a fallowing program. However, the employment of security alone for the solar energy facility will generate more employment than the current agriculture use. Therefore, similar to the Proposed Action, the construction and operation of the Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly impact employment opportunities. Rather, the Alternative 2-Reduced Solar Energy Facility Site will provide beneficial effects on the surrounding area by providing social and environmental benefits, promoting stable electricity prices, reducing reliance on imported fuels, protecting public health, and benefits to communities with minority or low-income populations by creating local employment opportunities. As such, the Alternative 2-Reduced Solar Energy Facility Site would not directly or indirectly impact environmental justice.

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.14.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on socioeconomic conditions and environmental justice from Alternative 3-No Action/Nor Project Alternative.

4.14.3 Mitigation Measures and Residual Impacts

No mitigation measures are proposed. The residual impacts would be the same as the impacts described above as well as those impacts not directly or indirectly affecting socioeconomic conditions and environmental justice.

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4.15 Recreation

NEPA Indicators

This EIR/EA analyzes whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-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 recreation impact would occur under CEQA if implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-No Action/No Project Alternative would:

Indicator 4: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or,*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

NEPA 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

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: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

The solar energy facility of the Proposed Action does not involve the construction of recreation facilities. Furthermore, the Proposed Action is the construction and operation of a solar energy facility and would not contain a residential component. Because the Proposed Action would not contain a residential component it would not increase the use of an existing neighborhood or regional park or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated and would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, no significant recreation impact under CEQA is identified with the construction of the solar energy facility site and a portion of the access road improvements on private land in the County of Imperial.

As discussed in EIR/EA Section 6.1.2 Growth Inducing Impacts, the Proposed Action does not involve the development of permanent residences that would result in a direct population growth in the area. The construction workforce for the Proposed Action is expected to reach a peak of approximately 250 temporary workers. After construction, no permanent construction workers would be hired. The Proposed Action would require the employment of four full-time personnel and one security guard for the operation of the solar energy facility. As such, the Proposed Action would not induce substantial growth in the area. As such, development of the Proposed Action would not require a need for the construction or expansion of recreational facilities.

The Proposed Action's transmission line and access road through BLM land 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 and access road are located within the Yuha Desert . The CDCA Plan designates this area as Multiple-Use L (Limited Use). The Limited Use designation is suitable for recreation "…which generally involves low to moderate use densities." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. Transmission lines would not limit the use of these routes.

The existing dirt road proposed to be utilized for access to the solar facility site was not designated in the CDCA, WECO routes of travel. With the installation of the transmission line 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.

The Proposed Action involves widening an existing dirt road, a portion of which traverses BLM lands, for construction and operation access to the solar site. This road was not designated in the CDCA, WECO routes of travel; and, therefore is closed to OHV use. The project would not preclude, or alter the continuation of this use. As such, the construction of the transmission line and widening and upgrading of

the access road under the Proposed Action would not directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas; 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. As discussed above, the Proposed Action will not increase use of recreational facilities or require the construction of new facilities. Therefore, the Proposed Action will not have any significant effects on recreational values under CEQA.

4.15.1.2 Alternative 1-Alternative Transmission Line Corridor

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

Indicator 2: *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: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

Alternative 1-Alternative Transmission Line Corridor would be on the same project site as the Proposed Action. Similar to the Proposed Action, the alternative transmission line within the designated Utility Corridor "N" and a portion of the access road would be located on existing BLM lands, which are intended for such facilities and would not preclude the use of BLM lands for OHV recreation. In addition, Alternative 1-Alternative Transmission Line Corridor would not develop access roads that would create a corridor for OHV use. 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-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: *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

Indicator 5: *Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.*

Alternative 2-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 within the designated Utility Corridor "N" and a portion of the access road would be located on existing BLM lands, which are intended for such facilities and would not preclude the use of BLM lands for OHV recreation. In addition, Alternative 2-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 2-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 2-Reduced Solar Energy Facility would not result in a significant impact under CEQA to recreation.

4.15.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3 -No Action/No Project Alternative were selected. Thus, no recreation impacts would occur from the Alternative 3 -No Action/No Project Alternative.

4.15.1.5 CEQA Summary

Implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative will not result in significant recreation impacts under CEQA. Therefore, no mitigation is required.

4.15.2 NEPA Environmental Assessment Summary

4.15.2.1 Proposed Action and Alternatives: Direct and Indirect Impacts

A. Proposed Action

Based on the analysis provided above in Section 4.15.1.1, the Proposed Action's transmission line and access road through BLM land would be located within an area currently designated by the BLM's CDCA as Utility Corridor "N." The purpose of the Utility Corridor "N" is to provide a designated area within the BLM lands for utility structures such as transmission lines and to group these utilities together in one area rather than allow utilities to be scattered throughout the BLM lands. In addition, the entire transmission line site and access road are located within the Yuha Desert. The CDCA Plan designates this area as Multiple-use L (Limited Use). The Limited Use designation is suitable for recreation "…which generally involves low to moderate use densities." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. However, the transmission line would not limit the use of these routes. Furthermore, the existing dirt access road is proposed to be utilized for access to the solar facility site is not designated in the CDCA WECO Routes of Travel. However, the Proposed Action would not preclude, or alter the continuation of this use.

As such, the Proposed Action would not directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas; 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 (NEPA Indicators #1, #2, and #3).

B. Alternative 1-Alternative Transmission Line Corridor

Based on the analysis provided above in Section 4.15.1.2, similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor's transmission line and access road through BLM land would be located within an area currently designated by the BLM's CDCA as Utility Corridor "N." The purpose of the Utility Corridor "N" is to provide a designated area within the BLM lands for utility structures such as transmission lines and to group these utilities together in one area rather than allow utilities to be scattered throughout the BLM lands. In addition, the entire transmission line site and access road are 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." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. However, the transmission line would not limit the use of these routes. Furthermore, the existing dirt access road proposed be utilized for access to the solar facility site is not designated in the CDCA WECO Routes of Travel for OHV use. However, the Alternative 1-Alternative Transmission Line Corridor would not preclude, or alter the continuation of this use.

As such, similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor 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 (NEPA Indicators #1, #2, and #3).

C. Alternative 2-Reduced Solar Energy Facility Site

Based on the analysis provided above in Section 4.15.1.3, the Alternative 2-Reduced Solar Energy Facility Site's transmission line and access road through BLM land would be located within an area currently designated by the BLM's CDCA as Utility Corridor "N." The purpose of the Utility Corridor "N" is to provide a designated area within the BLM lands for utility structures such as transmission lines and to group these utilities together in one area rather than allow utilities to be scattered throughout the BLM lands. In addition, the entire transmission line site and access road are 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." Utility Corridor "N" does include designated limited routes that can be used for OHV recreation. However, the transmission line would not limit the use of these routes. Furthermore, the existing dirt access road proposed be utilized for access to the solar facility site is not designated in the CDCA WECO Routes of Travel for OHV use However, the Alternative 2-Reduced Solar Energy Facility Site would not preclude, or alter the continuation of this use.

As such, similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site 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 (NEPA Indicators #1, #2, and #3).

D. Alternative 3-No Action/No Project Alternative

Based on the analysis provided above in Section 4.15.1.4, the project would not be constructed if Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts on recreation from the Alterantive3-No Action/No Project Alternative.

4.15.3 Mitigation Measures and Residual Impacts

No mitigation measures are proposed. Therefore, the residual impacts would be the same as the impacts described above, as well as those impacts not directly or indirectly affecting recreational resources.

4.16 Special Designations

There are no significant thresholds for Special Designations under CEQA; however, according to the BLM's NEPA Handbook, this issue must be analyzed pursuant to NEPA. Therefore, the following analysis fulfills the requirements for NEPA and is not required to meet the requirements of CEQA.

NEPA Indicators

The analysis of the effects of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, and Alternative 3-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-Reduced Solar Energy Facility Site, and Alternative 3-No Action/No Project Alternative. This EIR/EA will analyze whether implementation of the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, Alternative 2-Reduced Solar Energy Facility Site, or Alternative 3-No Action/No Project Alternative would:

Indicator 1: Conflict with the management goals of any special designation area.

NEPA 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 NEPA Environmental Assessment Summary

As discussed in Section 3.16, the project site for the Proposed Action, Alternative 1-Alternative Transmission Line Corridor, and Alternative 2-Reduced Solar Energy Facility Site does not have any of the following special designations:

- 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.

No direct or indirect impacts on these special designations would occur. Therefore, they will not be discussed further in this section. The special designation considered in the following analysis is Areas of Critical Environmental Concern (ACECs).

4.16.1.1 Proposed Action

Indicator 1: Conflict with the management goals of any special designation area.

A. Areas of Critical Environmental Concern

As discussed in EIR/EA Section 4.12 Biological Resources, the BLM manages all land uses within the Yuha Basin ACEC in order to minimize impact to this sensitive area. The Proposed Action is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated "Utility Corridor N." Proposed impacts to resources discussed in EIR/EA Section 4.12.2 are in conformance with the CDCA and maintains the integrity and intent of the Conservation Plan. Therefore, the Proposed Action would not conflict, directly or indirectly, with the management goals of any special designation area. However, as discussed in EIR/EA Section 4.1 Visual Resources, the Proposed Action may have a direct impact on Visual Resources by slightly affecting views of the Juan Batista de Anza Trail, which is analyzed further in EIR/EA Section 4.1 Visual Resources.

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 Yuha Basin 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, directly or indirectly, with the management goals of any special designation area. However, as discussed in EIR/EA Section 4.1 Visual Resources, similar to the Proposed Action, the Alternative 1-Alternative Transmission Line Corridor may have a direct impact on Visual Resources by slightly affecting views of the Juan Batista de Anza Trail, which is analyzed further in EIR/EA Section 4.1 Visual Resources.

4.16.1.3 Alternative 2-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 Yuha Basin ACEC in order to minimize impacts to this sensitive area. Similar to the Proposed Action, Alternative 2-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 maintains the integrity and intent of the Conservation Plan would be maintained. Therefore, the Alternative 2-Reduced Solar Energy Facility Site would not conflict, directly of indirectly, with the management goals of any special designation area. However, as discussed in EIR/EA

Section 4.1 Visual Resources, similar to the Proposed Action, the Alternative 2-Reduced Solar Energy Facility Site may have a direct impact on Visual Resources by slightly affecting views of the Juan Batista de Anza Trail, which is analyzed further in EIR/EA Section 4.1 Visual Resources.

4.16.1.4 Alternative 3-No Action/No Project Alternative

The project would not be constructed if the Alternative 3-No Action/No Project Alternative were selected. Thus, there would be no direct or indirect impacts to special designations from the Alternative 3-No Action/No Project Alternative.

4.16.2 Mitigation Measures and Residual Impacts

No mitigation measures are proposed. Therefore, the residual impacts would be the same as the impacts described above, as well as those impacts not directly or indirectly affecting special designations.

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